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THE PROGRESS OF EUGENICS

OTHER WORKS ON EUGENICS
BY DR. SALEEBY

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THE METHODS OF RACE REGENERATION. (New Tracts for the Times.) 1911

WOMAN AND WOMANHOOD. 1912

The Eastward Window

"At times, however, in a fleeting vision, the invisible breath that bears the living is materialised before our eyes. We have this sudden illumination before certain forms of maternal love, so striking, and in most animals so touching, observable even in the solicitude of the plant for its seed. This love, in which some have seen the great mystery of life, may possibly deliver to us life's secret. It shows us each generation leaning over the generation that shall follow. It allows us in a moment of insight to perceive that the living being is above all a thoroughfare, and that the essence of life is in the movement by which life is transmitted."—Henri Bergson, "Creative Evolution."

THE PROGRESS OF EUGENICS :: ::

By

Caleb Williams Saleeby

M.D., Ch.B., F.Z.S., F.R.S.Edin.

Fellow of the Obstetrical Society of Edinburgh; late Resident Physician to the Maternity Hospital and the Royal Infirmary, Edinburgh; Vice-President of the National Council of Public Morals; Member of the Council of the Sociological Society and of the National Association for the Prevention of Infant Mortality; Member of the Royal Institution and of the American Genetic Association

WITH FRONTISPIECE BY W. J. OPHELIA BILLINGE

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"Produce great persons, the rest follows."—WALT WHITMAN

FUNK & WAGNALLS COMPANY

NEW YORK and LONDON

1914

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TO

HENRI BERGSON

MY TEACHER AND FRIEND

IS DEDICATED THIS VOLUME ON EUGENICS—

CREATIVE EVOLUTION

BECOME SELF-CONSCIOUS

PREFACE

In offering this little book to the reader I must make acknowledgment for the invaluable help I have received in eugenic propaganda, since I left medical practice to follow Galton, ten years ago, to the National Council of Public Morals, which, for instance, granted me its platform in the autumn of 1912, for a public course of eight lectures in the Holborn Hall, London, much of which is here included; and to the Managers of the Royal Institution, for the privilege of returning to the subject here, yet again, in the course of lectures on "The Progress of Eugenics," this day completed. Let it also be recorded, for Great Britain, in this decennial volume of modern eugenics, that, at last, thanks to the help of Major Leonard Darwin, President of the Eugenics Education Society, I have succeeded in getting a reprint of Galton's "Hereditary Genius"; and that, though the Inebriates Act is yet to be, yesterday the Mental Deficiency Act, 1913, and the Order of the Local Government Board making ophthalmia neonatorum notifiable, came into operation.

C. W. S.

Royal Institution, London, W.
April 2nd, 1914.

CONTENTS

PART I

Principles

CHAPTER		PAGE
1.	Introductory	1
2.	The People called Eugenists	22
3.	Nature and Nurture	44
4.	The Rights of Mothers	55
5.	The Care of Infancy and the "Home Child"	71
6.	Real Education—A Soldier to the Rescue	84
7.	Adolescence and Eugenic Education	90
8.	The Homing Problem	109

PART II

The Search for Knowledge

9.	The National Birth-Rate Commission	123
10.	The Foundations of Eugenics	133

PART III

The Progress of Primary Eugenics

CHAPTER PAGE

11. Positive Eugenics—The Encouragement of Worthy Parenthood 156

12. Negative Eugenics—The Discouragement of Unworthy Parenthood . . . 176

13. Preventive Eugenics and the Racial Poisons 220

PART IV

Conclusion

The Eastward Window 245

APPENDIX

Francis Galton: 1822–1911 . . . 248

INDEX 255

THE PROGRESS OF EUGENICS

Part I.—Principles

CHAPTER I

INTRODUCTORY

TEN years have passed since the newly formed Sociological Society asked Mr. Galton, as he then was, to use it as a platform for the public launching of what he has taught mankind to call eugenics. He accepted our invitation, and addressed a small audience on "Eugenics, Its Definition, Scope and Aims," on May 16, 1904. Soon afterwards, thanks to a kind invitation from him, and his appreciation of an article on the subject, it was my privilege to serve that great man in his earliest efforts to obtain a hearing for eugenics, and a place for it among academic studies. At one time I very nearly persuaded him to write a book upon eugenics; but a survey of the literature which would require to be studied led him regretfully to abandon a task too heavy even for his superb old age.

Thus it came about that, five years after that memorable meeting of the Sociological Society, and following upon three lectures at the Royal Institution, in 1907 and 1908, I essayed the writing of an outline of eugenics, under the title of "Parenthood and Race Culture." It need hardly be said that every line of that book was read before publication by the critical eye of my master, to whom it was incalculably indebted, and without whose help and approval it could have had no authority whatever.

The last lustrum.—Five more years have passed, and the time seems ripe for an attempt to record the progress of eugenics, less in the past decade as a whole than in the latter half of that period. We have learnt much, and have had to unlearn scarcely less. Events, scientific, academic, legislative, have crowded upon one another, not merely in this country but notably in the United States, where my presentation of Mr. Galton's ideas, as I understood them, was much more widely considered than in his own country.

A few notes will suffice to show how much needs to be added, or re-stated, thanks to the remarkable lustrum which has passed. After receiving the meagre honour of a knighthood, some forty years overdue—an honour entirely

unsought, and one which gave him a real and charming pleasure—and after giving to the world his "Memories of My Life," as delightful and modest an autobiography as literature can boast, Sir Francis Galton passed away in January, 1911; henceforth eugenics must develop as best it can without his judgment, his prestige, his knowledge, his wise enthusiasm, and the beautiful tolerance of a soul in which there was no bitterness at all, even for those who unscrupulously and persistently misrepresented his aims and attributed to eugenics a character of stupidity, immorality, and materialism which they alone were capable of conceiving.

But Galton lived to see great developments in the external appanage of eugenics, some of them due directly to his own munificence, and more have followed since his death. He began by founding a scholarship in National Eugenics at University College, London, and the days seem indeed remote when those whom he asked to serve on a kind of advisory committee used to meet under his direction, or that of the late Professor Weldon, whose premature death was a great loss to eugenics. We had no room really to call our own then. But now there is a great department of eugenics at University College, and the University of London can boast the first, and

at present the only Chair of Eugenics in the world, handsomely endowed under Galton's will, and occupied by Professor Karl Pearson, one of the most distinguished of living mathematicians. Furthermore, eugenic societies have sprung up in many parts of the world—the Eugenics Education Society in London, with many similar societies in the provinces, and one in Ireland, the New Zealand Society of Eugenics, another in New South Wales, and, founded only last year, the French Society of Eugenics, with its excellent journal *Eugénique.*

But the United States has really done more for the progress of eugenics than any other country in the world. Eugenists everywhere are indebted to the initiative of the American Genetic Association in this respect. Its Eugenics Record Office, established in 1910, under the leadership of Dr. Davenport, has applied the principles of a new department of knowledge to the study of human heredity, and has added more to our *exact knowledge* of that fundamental subject, in the last four years, than all preceding time could record.

Mendelism.—That new department of knowledge is now known as genetics, a name applied to it by Dr. William Bateson, formerly of Cambridge, now Professor of Physiology at the Royal

Institution, and President-elect of the British Association, who is the chief student of heredity to-day. Ten years ago the work of Mendel had only very lately been re-discovered. Galton was broad-minded enough to recognise that Mendel had made a great discovery, but his principal mathematical follower held other views. Mendelism was strenuously fought, and for years the chief object of the biometrical laboratory at University College has seemed to be, and now clearly is, to prove the inheritance of this or that human character to be "not Mendelian." Five years ago, in referring to Mendelism, I warned the reader against the view that this theory would be of no importance for the study of man—but nothing definite could then be said as to Mendel's law in man, though, in dedicating the book to Mr. Galton, I was compelled to repudiate his "law of ancestral inheritance," which would be of such importance for eugenics if it were true, but which could not stand in the light of our new genetic knowledge.

The progress of genetics in the past five years has surpassed all expectations. The Mendelians have gone on from strength to strength. They established their case for numerous characters in plants and animals, but it was still possible for their opponents to deny the application of

Mendelism to man. Major Hurst, however, showed that, in point of fact, so simple, definite and easily studied a character as the colour of the eyes is inherited in man according to Mendel's law. The facts could have been ascertained at any time—by Aristotle as easily as by Major Hurst; no modern instruments were required. but merely the right way of recording pedigrees, which Mendel conceived and applied in the monastery garden at Brünn fifty years ago. A few other normal traits, such as the colour and form of the hair, right- and left-handedness, have similarly been shown to follow Mendel's law, but neither eye-colour nor any of these is of eugenic importance. On the other hand, the American observers have shown that various morbid traits of the utmost eugenic importance, such as forms of epilepsy and mental deficiency, follow Mendel's law. In this country the same has been shown, by the late Mr. Nettleship and others, for a large number of extremely rare defects of the eye and the skin. And, last year, Dr. Kerr Love, of Glasgow, guided by the American methods to which it was my privilege to direct him, published a series of lectures in which he demonstrated the existence of a Mendelian form of deaf-mutism.

These important discoveries must hereafter be

discussed for their urgent practical importance. Meanwhile they serve to show the most significant of the changes which eugenics has undergone since its foundation.

The fact is that any practical science which depends, above all, upon heredity must reconsider its statements and its intentions from first to last in the light of our new knowledge. To the breeder of wheat or roses or racehorses this statement applies, but it applies no less to those who seek to serve human parenthood and the future. The laws of heredity are not as Galton understood them, and they are not to be elucidated by the methods which he employed, and which Professor Karl Pearson has since elaborated and still employs. It was a tragedy for biology at large, and above all for eugenics, that Gregor Mendel should have been appointed Abbot of Brünn, and should have lost all interest in his own researches, so that Darwin died without having heard his name, and Galton studied heredity for decades without the key which Mendel had already forged, but of whose existence no one outside Brünn was aware.

That cannot be helped, but what can be helped is the tendency to continue along the old lines, and shut our eyes to the significance of the new methods—which are in fact older than

Galton's, though our acquaintance with them is so recent.

Mendel and Galton were born in the same year, as the Englishman reminds us in his generous tribute to Mendel, and between them, had they known of each other's work, they could and would have carried our knowledge of heredity to a point which it cannot now reach for another decade or more. Our business is to go forward, honouring Galton none the less in that we find ourselves compelled to abandon his generalisations, and to restate the postulates of eugenics in many respects.

It is the importance of the individual that emerges from the study of Mendelism. Two children of the same parents can no longer be looked upon, from the standpoint of heredity, as being "as like as two peas." Or rather, we must recall the fact that the peas in one pod may be utterly different in genetic characters, as Mendel showed. Statistical statements of averages and probabilities will not do. When Galton gave the Herbert Spencer Lecture at Oxford, he chose as its title "Probability the Foundation of Eugenics." It will not do. The probabilities of the statistical method are untrue as biological facts, and they are useless for the service of eugenics. It is the individual youth who wants

to know whether he is justified in marrying and becoming a parent, and eugenics must either be able to state something definite about him as an individual, or hold its peace. Thanks to the application of Mendel's method to man, there are hosts of instances where positive statements as to the results of any given human mating can be made, and our knowledge thus becomes a guide of life for those who acknowledge any responsibility to the unborn.

Further, Mendelism has taught us the importance of the unit character. If three or four Mendelian factors may be involved in the production of the simplest anatomical characters in plants, and if the inheritance of such characters can be understood and controlled only when each of these factors has been unravelled, we shall be less ready than some of us have been to talk confidently about breeding for genius, which may be reasonably supposed, on any attempt at psychological analysis, to be a few hundred times more complex in constitution than, say, the colour of a sweet pea.

Most hopeful for the future of eugenics in Great Britain is the recent establishment of the Arthur Balfour Chair of Genetics at Cambridge. Professor Punnett's duties comprise the study of genetics in living forms at large, and no one

will question that such a chair was needed, or that Cambridge does well in possessing the first chair of its kind in the world. But what we now urgently need in this country is a Chair of Human Genetics. This is the subject which lies at the very foundation of eugenics, and nowhere in this country has it any adequate recognition, or anything approaching the advantages of the Eugenics Record Office in America. It is to be hoped that, ere long, this urgent need will be met, and that the study of human heredity may be able to avail itself of as many material advantages and resources as if its subject matter were horses or pigs.

Biometry.—The rise of genetics in the last few years has had an inevitable corollary in the simultaneous decadence of the method which, elaborated from Galton by Professor Karl Pearson, is known as biometry. Ten years ago biometry was in its heyday. No one was in a position to challenge its conclusions, Mendelism was regarded as a biological curiosity of hybridisation, and the publication of reports on alcoholism, infant mortality and tuberculosis, which were demonstrably nonsensical, had not begun. Failing any other method of studying the facts of heredity, biometry held the field. Its results were accepted at their face value by students gener-

ally, including the present writer. Then came the advance of Mendelism, the work of de Vries and Johannsen, showing the difference between "fluctuations," due to the accidents of nutrition, and true "mutations," which have their seat in the germ-cells, and are inherited. Biometry, we saw, had failed to distinguish between these fundamentally different things, as it still does. Work done by the biometric method, as upon the inheritance of coat colour in horses, was done again by the Mendelian method, which observes the constitution of each parental pair, and it was shown that the obvious facts had been missed by a method which ignored altogether the details of the individual matings, as biometry necessarily does. In the words of Professor Bateson, as early as 1909, "To those who hereafter may study this episode in the history of biological science it will appear inexplicable that work so unsound in construction should have been respectfully received by the scientific world. With the discovery of segregation it became obvious that methods dispensing with individual analysis of the material are useless. The only alternatives open to the inventors of those methods were either to abandon their delusion or to deny the truth of Mendelian facts."

Those who once practised what Bateson

describes as these "so-called investigations of heredity" have come to "abandon their delusion." Dr. Davenport and Professor Raymond Pearl, leading American eugenists, may be cited as illustrations. Sir Francis Galton died before the complete exposure of the first biometric memoir on alcoholism, and his faith in the method was testified by the large endowment which he left for its practice. But it has no home outside University College, and whilst we must regret the lamentable waste of energy and money which its continued prosecution involves, we need pay no further attention to it here. In the following pages no reliance will be placed on any conclusions which depend for their authority upon the use of this method alone, and I can only express my regret for having, nine years ago, based biological and eugenic arguments upon biometric evidence—as, for instance, regarding the influence of mating upon variation —which we now know to be worthless.

The "questionnaire" method.— The biometricians have largely employed a method which is not, indeed, peculiar to them, and from which they would be the first to obtain valuable results if any students could. This we may call the *questionnaire* method, which consists in preparing lists of questions to be answered by interested persons, and then submitted to statistical analysis.

The recent American work has shown clearly that to rely upon *questionnaires* alone is to court disaster. Everything concluded from such inquiries needs re-investigation, and where such re-investigation has been undertaken the results based upon the *questionnaires* have had to be discarded. "Individual analysis of the material," in Professor Bateson's phrase, is essential. If that be true of peas, and their simple characteristics, it is a thousandfold truer of human beings and such traits as conscientiousness, which the biometricians, incredible to relate, have actually "studied" by means of *questionnaires*, and have pronounced upon as if it were a simple inheritable unit like blueness of the iris. I believe that the French Society of Eugenics contemplates the issue of *questionnaires* on a large scale to doctors and other students in France, but it is to be hoped that not too much time will be wasted in this way, which, except for certain limited purposes, has been tried and found wanting.

The reader will see that, whilst we know much more than we did ten or even five years ago, we know much less than we thought we did. Eugenics is an applied art or practice, like clinical medicine, depending on numerous scientific bases, and as these develop, eugenic practice, like medical practice, must be modified.

To write a treatise on practical eugenics to-day, assuming the truth of all the conclusions reached in the memoirs of the biometricians, would be simple and might be convincing. The law could be laid down on conscientiousness, insanity, tuberculosis, alcoholism, and a host of other subjects with clearness and confidence. Such a task might have been essayed a few years ago, but the case is different now. The cautious eugenist must confine himself to stating conclusions, and demanding public action accordingly, only in so far as he has genetic, microscopic, or experimental evidence. We have such scientific evidence for certain cases of the highest eugenic importance. This evidence is practically all due to the work of the last five years, and its existence constitutes a sufficient reason for the writing of this book. But the reader must be forbearing if I speak with the utmost hesitation on many other subjects, on some of which many recent converts to eugenics have inclined to speak and demand as if we knew what will not be known for many years to come.

Eugenics and natural selection. — Just as modern eugenics needs to be based upon a theory of heredity which has only come into its own during the last few years, so also we require to recognise that a certain biological theory, com-

monly quoted as the ultimate argument of eugenics, stands no longer where it did. This is the theory of "natural selection," which was advanced in a moderate form by Charles Darwin, and is preached by the neo-Darwinians in a form which Darwin himself repudiated in set terms. Upon this theory of natural selection is based a eugenic demand which practically consists in the condemnation of charity and altruism in all their forms. Thus eugenics comes to be represented as an alternative to social reform, an enemy of love, and a new buttress for the selfish and materially fortunate members of society; and thus it makes hosts of enemies, as any such thing should. Galton hoped that eugenics would become part of the religion of the future, and it will hereafter be made clear that the shocking and disgusting perversions of eugenics which have been in evidence during the last few years, and which are contrary to every religion but Mammonism, have no sanction either in science or in morality.

Darwin always believed and asserted that some influences affecting future parents will affect the character of their offspring. This was the teaching of his illustrious predecessor, Lamarck. The modern followers of Darwin, however, have rejected this view, and proclaim natural selection as the only means of changing the character of

a race, for they declare that environment may modify individuals, but that it has no influence upon the race. This is a cardinal assumption of eugenics as it is taught and advocated by nearly all eugenists to-day, and from it I expressly dissociate myself in the light of the experimental work which has been done in various parts of the world, but unfortunately not at all in this country, during the past few years. If the neo-Darwinian view were true, we should be completely discharged from the necessity, on eugenic grounds, of taking care of future parents. On that theory, such young people are the trustees of a certain type of germ plasm *which nothing can alter*. Thus, though circumstances may affect them, as individuals, for good or evil, they will not affect the race as such individuals are capable of reproducing it.

In this preposterous form the neo-Darwinian theory was never held by Darwin nor by Galton, and has been expressly repudiated by Weismann, who is commonly quoted as its great authority. But nothing is better established in biology, thanks above all to the famous German student, than the fact that very many changes effected by the environment in the bodies of future parents are totally without any influence upon the germ plasm and the future. On the other hand, the

new experimental work hereafter to be referred to has shown that some influences may and do act upon the germ plasm, through the parent, with most important consequences for eugenics.

Observe, then, the difficulty in which the eugenist finds himself to-day, if he is determined to fit his practice to the facts. All is clear if we follow Lamarck, and assume that every change in the individual means a corresponding change in his potentialities as a parent. All is clear, no less, if we follow the neo-Darwinians, and assume that no influence acting on the individual will affect his potentialities as a parent. But now we find that neither of these statements is true. Some influences affect the individual but not the race in him, and some affect both. No generalisation on this subject is true—and hitherto we have dealt in nothing else. Henceforth, however, we must be prepared to make a separate inquiry, not as to what can happen on a given theory, but as to what does happen, in every case that concerns us. Does education of the parent affect the child's mind? Does parental alcoholism affect the child's body, or his mind? These are questions which must be separately answered, and then we must try to act for eugenic ends, as the answers dictate.

But it is already certain that, in numerous

instances, influences acting upon individuals affect their offspring profoundly. Thus, my friend Professor Houssay, of the Sorbonne, one of the leaders of eugenics in France, has shown by experiment that to feed fowls upon a meat diet is to cause extinction of the race in a few generations. It is probable that luxury and over-nutrition may have such an influence in ourselves; and nothing can be of greater importance for eugenics. Again, Bertholet and Stockard, within the last five years, have proved that parental alcoholism causes degeneracy in the offspring, and, finally, sterility.

Preventive eugenics.—A new department of eugenics, we see, needs to be recognised, which never came into Galton's purview at all, and for which it has been my business, during some years past, to attempt to obtain recognition in Great Britain especially. It is clear that, by injudicious nurture of future parents, we may injure the race. It thus becomes a eugenic duty to recognise and fight those substances which I call the "racial poisons"; and we find ourselves involved in the task of what I call Preventive Eugenics, which prevents degeneracy due to parental intoxication or malnutrition.

When eugenists can be persuaded of the facts upon which this contention is based, we shall hear no more of the arguments about the

relative value of attention to "nature" and "nurture," which occupy most of the time at eugenic meetings. We shall see that the nurture of the future parent may affect the nature of the offspring, and that eugenics consists in much more than the mere practice of selection, regarding all individuals as immutably good or bad for parental purposes, and ignoring their individual nurture altogether. I am convinced that the importance of this part of eugenics will be steadily found to increase in the light of increasing knowledge, and that it will reduce to the level of a meaningless farce the present efforts of many eugenists to discount the value of the care which is being increasingly devoted to children and adolescents of both sexes. These will be the parents of the future, and, though they differ widely in parental possibilities, there is not one of them that may not be utterly ruined, as an individual, and as a parent, by such malnutrition as we contentedly witness to-day at both ends of the social scale.

Positive and negative eugenics.—As here presented, eugenics will therefore be a very much larger and more difficult matter than the eugenics of my master, Galton. Recognising the vast differences in human stocks, and the great value of fine people to a nation, he argued that we must

encourage parenthood on the part of persons belonging to fine stocks, and to that project he gave the name of eugenics. But it is no less necessary to discourage parenthood among defective individuals, and to this, with Galton's approval,* I gave the name of negative eugenics, calling his own scheme positive eugenics. No sooner was this seen and formulated than the overwhelming new evidence as to the influence of parental malnutrition upon offspring made it apparent that eugenics required much more than selection and rejection for parenthood; the nurture of future parents is essential also, and we require to invoke the help of many sciences which were formerly thought to be of no account for our purpose. In the following pages the attempt is made to present *the whole* of the eugenic problem in due perspective, and for this presentation the writer is alone responsible, except in so far as he acknowledges his incalculable debt to Galton. Eugenics as here developed differs widely from that which is commonly taught and advocated in this country, and it must be understood that the opinions of no eugenic institution are represented here. On the contrary, I expressly disclaim any association with or approval of the perversions

* *See* his "Essays in Eugenics," published by the Eugenics Education Society.

of eugenics which find utterance on many sides to-day, which have no science behind them, but only the echo of dead formulæ from the nineteenth century, and which seem to me to be brutal in spirit, immoral in principle, inaccurate in theory, and wildly impossible in practice. I cannot prevent anyone who advocates the neglect of infancy, or marriage without love, or the abolition of marriage, or who approves of alcoholism, or the lethal chamber, from calling himself by the name of eugenist, which I introduced now many years ago; but I write this book primarily to show that eugenics as I learnt it from Galton, and as I have always advocated it, differs *toto cælo* from such views as those.

"*Galton Day*."—In revising these pages for press it may be added that Feb. 16, 1914, being the ninety-second anniversary of the birth of Galton, was celebrated in London as Galton Day—the first of many. I hope that eugenists in all lands will henceforth follow the excellent lead which we owe to the Eugenics Education Society in this respect. In the afternoon (under independent auspices) the first performance of M. Brieux's play, *Les Avariés*, to which I directed the reader five years ago, was admirably given in London, at last—a great service to preventive eugenics; in the evening Sir Francis Darwin gave the first Galton Anniversary Lecture, and marked a new stage in the development of sound theory among amateur eugenists by explicitly declaring, with his high authority, unique in this connection, that Galton's law of ancestral inheritance is not true, and that Mendel's law can no longer be disputed.

CHAPTER II

THE PEOPLE CALLED EUGENISTS

The people called Eugenists believe that "the soul of all improvement is the improvement of the soul"; that, since individuals are mortal, the quality and quantity of parenthood are the dominant factors in the destiny of any people; that the culture of the racial life is the vital industry of mankind, everywhere and always; that every child who comes into the world should be planned, desired and loved in anticipation; that the function of government is the production and recognition of human worth, and the extirpation of human unworth; and that to these incomparable ends, for which, if for any, the world was made, all powers of man and of Nature, all forces, spiritual and material, must be made subservient.

Thus they desire and hope for what all people worthy to be called human have desired and hoped for—the coming of nobler and finer men and women, the disappearance of disease and ugliness and stupidity and misery and vice, the

making of a better world, the dawn of the Golden Age which poets fabled in the past, but towards which we know our feet are pressing.

Nature and nurture.—Now if our object be the making of noble individuals, we must first of all ask ourselves: What are the factors that make the individual noble or base, healthy or diseased, wise or foolish, clever or stupid, kind or cruel? The answer is clear. Every attribute and character of every living being is the product of what we may conveniently call "nature" and "nurture." Nature includes everything given at the individual's beginning, and nurture includes all nutrition from the moment of the formation of the new individual onwards—all environment, physical, social, spiritual. These two cover between them, if they be properly understood, the whole of the forces that make us, or that make any living being, past, present, or to come. And we recognise that both are essential, for if there be no nature, nurture is impotent, and if there be no nurture, nature comes to nothing.

Therefore eugenists, while proclaiming a new doctrine, which is the primary importance of heredity, must assert their assent to an old doctrine, and must admit this to be *no less essential* than their new contribution to the argument.

They must admit the whole of nurture. It is not as if the object of eugenics were the production and mating of fine germ-cells. We want not germ-cells, but people; and want germ-cells, however fine, only because they develop into people. We must therefore nourish them, at every stage, from the first to the last. This establishes, for instance, the case for the care of expectant motherhood as essential to eugenics, though many professing eugenists protest at this point, and call the care of a child before it is born "Socialism," and "the end of all things," including religion—though to pay later, in children's hospitals, for our neglect of the unborn appears to them charitable, and therefore religious. This kind of folly has only to be exposed to be despised, and no more need be said of it here.

Nurtural eugenics. — There is therefore a *nurtural eugenics*, an essential and integral part of our science and our practice. The asserted opposition between eugenics and social reform, eugenics and education, eugenics and philanthropy, does not exist. The eugenist must welcome all agencies that make for better nurture, alike for rich and poor, born and unborn. If and when he quarrels with those who are nowadays sometimes called the environmentalists, and thereby denies

the value of environment for his own ideal, he is talking nonsense, and arousing opposition between those who should be friends and allies.

But the difference between the people called eugenists and all other people whatsoever lies in the fact that they recognise the factor of nature, or heredity, *as well as*, not in place of, the factor of nurture, or environment, in the making of human beings. If partisans, calling themselves eugenists, desire us to exchange the obvious half-truth called "nurture" for the obvious half-truth called "nature," we must not listen to them. But the eugenist is compelled to maintain that his special contribution to the whole truth is necessary and essential. He declares that, vitally speaking, not only are all men *not* born free and equal, but all men and women are born different, and some are as certainly doomed by their nature to inferiority and essential slavery as others are destined by their nature, if nurture be adequate, to superiority and freedom. If all children began alike, and if the differences between us were therefore all due to nurture, then plainly what we here call nurtural eugenics would be the whole of eugenics. But if children differ inherently, and if these differences are not accidental but proceed by law, and range from criminal lunacy to saintly genius, from

the blight of disease to the radiance and wholeness of health, then plainly nurtural eugenics is only a stage in the whole making of a man or a woman, and not the first stage, but the second.

The first stage we have neglected. We have "educated" the feeble-minded girl, until she "got into trouble," and then her feeble-minded child, until *she* "got into trouble"; and we now have all three generations, all feeble-minded and all illegitimate, living together in the same workhouse. We have actually devoted ourselves to nurture in such a fashion as to ensure and multiply the quantity of defective nature in each succeeding generation.

The factor of heredity.—This, then, to take perhaps the most outrageous of all instances, is what the people called eugenists mean when they declare that the factor of nature or heredity has been forgotten; and even that it would be quite possible to attend to nurture in such a way as rapidly to cause the degeneration and complete ruin of a race. For instance, we take great care of the defective babies of defective mothers, as we certainly should, but we also neglect myriads of healthy babies and healthy mothers. Often we thus ensure the survival of a larger proportion of feeble-minded than of

normal children. Plainly, our care must become more careful, our philanthropy more philanthropic; or in a few generations the end might be in sight.

Most untrained advocates of eugenics in Great Britain since the death of Galton attempt to buttress their case with illustrations which merely darken counsel. They argue that the race is degenerating because—as they incorrectly say—the birth-rate is falling more rapidly among the middle class than among the artisan class. The alleged degeneration may be so, but it requires proof; and there is not a scintilla of proof forthcoming—no, not though we wade through a wilderness of statistics, which one and all omit to consider the differences in nurture, education and opportunity between these two classes. This kind of argument is worse than worthless for the eugenic case; but the scientific eugenist will instance the feeble-minded, and will convince therewith and forthwith all but the very feeble in mind.

Now, if "nature" be so important, if the degree of its importance becomes more evident and massive and minutely detailed with every year of investigation, and if the experience of all who breed cattle or roses or horses or peas proclaims the same truth, are we not bound by the highest of moral sanctions to apply our

knowledge to the superlative case of breeding men? To this question the people called eugenists return the answer that this is our duty; that, notwithstanding all difficulties of ignorance, prejudice, convention, legislation or public opinion, that duty must be done, and that we already have knowledge which it is our duty to apply now. To our nurtural eugenics, which everyone is agreed upon, we must add a natural eugenics, which everyone shall yet be agreed upon.

Relation between natural and nurtural eugenics.—Now, these two portions of eugenics, corresponding to the two stages in the history of any individual, the stage of providing the material, and the stage of developing it, must be put into due relation with one another; and plainly we may speak of Natural or Primary Eugenics, and Nurtural or Secondary Eugenics. These terms do not grade the importance of nature and nurture; that is a kind of folly practised only by those who profess to measure life on paper, with no idea of a living thing. Since no fact of life can be as it is, or be at all, without both nature and nurture, there is no more to say.

But Natural Eugenics is to be called primary, and Nurtural Eugenics secondary, because that is their order in time and in logic, and that, not-

withstanding all our doings hitherto, must be their order in practice. No more need be said at this point regarding nurtural or secondary eugenics. Only let it be noted that, if he is worthy of his name, the eugenist has a special contribution to make to this subject. While others agree about the nurture of the adult—say as to housing—or the nurture of the adolescent or the school child, and while public opinion has recently discovered the infant, only the eugenist who has obstetric experience remembers the wonderful, familiar, hitherto forgotten truth that every one of us is alive for nine months before birth. Therefore, when people insist on the importance of nurture, as they always do in the company of the eugenist, he must reply: "Very well; to nurture you appeal, and to nurture you shall go. It means more than you bargain for. Every expectant mother in the land involves the nurture of the next generation. Is there one expectant mother in this country who is ill-nourished, unprized, dishonoured, worried, overworked in factory or home? If so, be as good as your word; and if you believe in nurture for the next generation begin its nurture now." This is one of the great issues of immediate progress, and none of us will live to hear the end of it. The "maternity benefit" of the Insurance Act provides an iota

towards it in Great Britain, by its attempt to care for the last fortnight of expectant motherhood or ante-natal nurture.

But now as to natural or primary eugenics, as I propose to call it. As was shown in the first chapter, Galton's original conception requires to be extended. We need not only to encourage worthy parenthood but also to discourage unworthy parenthood, and to combat the racial poisons, which are liable to turn worthy into unworthy parenthood.

With this the principles and the categories of the eugenist are completely stated, so far as present knowledge goes. It may yet be shown that certain agents, brought to bear upon the individual, directly improve his parenthood by changing for the better the germ-cells which he bears. That is the popular belief regarding education and good nutrition in general. But at present, notwithstanding the theories of Lamarck, science knows nothing of any such definite agents, and therefore what might be called a Constructive Eugenics must be left for the future, if possible, to practise. Meanwhile, the foregoing terms and definitions exhaust and comprehend the possibilities and consequent duties of eugenics. In tabular form they run as follows :

NATURAL OR PRIMARY EUGENICS

1. *Positive*—the encouragement of worthy parenthood.

2. *Negative*—the discouragement of unworthy parenthood.

3. *Preventive*—the protection of parenthood from the racial poisons.

NURTURAL OR SECONDARY EUGENICS

—Comprising the nurture and education of every individual from conception onwards.

Difficulties of the eugenist. — No one knows better than the eugenist who has spent a decade in the formulation, the study and the public advocacy of this programme, how many questions it raises, and how many difficulties it involves. All manner of preliminary issues have to be dealt with, even before we attempt to put these principles into practice. We have to agree as to what we mean by worth and unworth, or, if not to agree, to obtain sufficient general consent ; and the issue of the racial poisons—for the bare recognition of which I have struggled for years, with only now incipient success—involves problems which will not be solved in a generation. When we have decided what we are to call worth and what unworth, we have to ascertain to what

extent, in what ways, how through the fathers, and how through the mothers—who are half the race, but are forgotten by many eugenists—these qualities are inherited. This task involves the study and disentanglement of incalculably complex human qualities, such as "vitality" or "conscientiousness" or "genius," to a degree of which few, even among professed students of physiology or psychology, have dreamed.

Even then our real difficulties have scarcely begun. Granted that our principles are agreed upon, that we know what we want and what we do not want, and that we know just what particular individuals, and *what particular matings of individuals,* will produce what kinds of children, we have now to ascertain the methods by which the right people can be persuaded to become parents, and the wrong people dissuaded or excluded, and the methods by which we can induce the right people to marry the right people, *for them,* if any such methods there be.

Meanwhile we shall encounter human instinct and passion and pride and prejudice and law and custom at every turn; and, above all, we shall encounter the great fact of love, which is said to make the world go round, and which is certainly quite capable of turning some schemes of eugenics inside out and upside down. We shall have

to decide whether this natural fact of love is an enemy of eugenics or a friend ; and if it has been evolved as a friend of eugenics, as we shall discover, we must search out and destroy all those heathen deities, such as Mammon, Bacchus and Priapus, which are apt to pervert it and make it useless for the eugenic cause. Not least of all, we shall have to ascertain whether eugenics can be achieved without injuring the individuals through whom we work, or whether what is best for the individual is worst for the race, and the devil does indeed sit on the throne of the universe. This, also, we shall find some to assert.

The people called eugenists set themselves, as the supreme end of all policy, the making and maintaining of the largest possible number of the finest possible people, and assert that this is the end of ends, by which all other ends, and all means whatsoever, all political parties, all institutions, old or new, all dogmas, all human practice, conduct, and belief, will in the last resort be judged : How much life, and of what quality, did they produce ?

The word eugenics, and the appellation eugenist, are rapidly becoming part of the vocabulary of politicians, and will soon be as familiar to the eye and ear as words like " evolution " and " sociology," once so strange, have now become.

As is the rule, these new terms, expressing immense ideas, must weather a period of misunderstanding and misuse, powerfully contributed to by injudicious advocates, by hangers-on who want to turn the new thing to their own ends, by the stupid at large, and by cynics and enemies whose one chance of success in fighting any new truth or any new advocacy of truth lies in falsehood. Eugenics has already had its full share of all these dangers, not least that of unscrupulous and monstrous misrepresentation.

The "better-dead" school.—I am naturally jealous of the honour and utility of the name eugenist, which all manner of people are now applying to themselves. When one finds that the "better-dead" school, as they may with convenient ambiguity be termed, call themselves eugenists in protesting that we must not combat infant mortality, as its victims are not worth saving, and are better dead—the time has evidently come for a plain statement of what this word means. It is unfortunately much easier to coin a name than to prevent its abuse, but one cannot supinely permit the prostitution to the interests of national infanticide, alcoholism, neglect of children, militarism, class-hatred, and the devil knows what other of his works—of a word which was coined in the interests of life.

Eugenics and materialism. — In the first place, the people called eugenists are not committed by their creed to any form of materialism. Doubtless they insist upon the importance of heredity, even in the realm of our moral nature. But if it can be shown that children tend to inherit their parents' good temper or cruelty, and if eugenists insist that these facts are to be reckoned with in education and in our national policy, they are neither to be blamed for discovering and proclaiming the laws and facts which, being natural, are therefore necessarily divine; nor are they to be accused of asserting that the moral influences of human life have no effect and are to be discounted.

Eugenics and natural selection.—Secondly, the people called eugenists are not committed by their creed to the outrageous misunderstanding of Darwinism for which Nietzsche is primarily responsible, and against which Darwin explicitly defended himself. No worse or more abominable rendering of eugenics can be imagined than that which asserts that mankind is degenerating because the "law of natural selection" has been abolished, and a "sickly humanitarianism dating from Rousseau"—as a clergyman has been heard to assert on a eugenic platform—has disastrously replaced it.

This kind of teaching involves so many

absurdities and cruelties that it cannot be dealt with as it deserves within any reasonable limits. Humanitarianism, for instance, is somewhat older than Rousseau, and has been credibly associated with the Founder of the Christian Church. The supposed law of natural selection, or survival of the fittest, has not been abolished, but its working has been modified by the conditions of civilisation. The law that the fittest, *in the conditions*, survive is one of natural necessity, and can no more be abolished than the twoness of twice one. There is no evidence that mankind is degenerating ; but if the law of love, older than any Church or creed, or than mankind itself, were abrogated, there would forthwith be an end of us, seeing that without love no baby can survive its birth for twenty-four hours. Eugenics cannot possibly afford to sneer at the spirit of humanity, whoever invented it, for only through that spirit, and only by appealing to those who possess it, can this humanest of all ideals, the making of man more human and humane, be realised.

Eugenics and marriage.—Thirdly, the people called eugenists do not seek the abolition of marriage. They indeed assert their intention of judging all human institutions by their supreme criterion—the quality of the human life they produce—and thus they may condemn certain

aspects of marriage as we practise it. Undoubtedly the eugenist declines to accept conventional, legal, or ecclesiastical standards of judgment in this or any other matter, but inquiry compels him to recognise in marriage the foremost and most fundamental instrument of his purpose. Only it must be eugenic marriage. The Church and the State and public opinion may permit the marriage of the feeble-minded girl of sixteen, or a marriage between a diseased inebriate and a maiden clear-eyed like the dawn; but the eugenist has regard to the end thereof, and he is false to his creed if he does not declare that these are crimes and outrages perpetrated alike upon the living and the unborn. Those whom the devil hath joined together he would gladly put asunder. If this is to "attack marriage," then he does attack marriage. But this is rather to make a stand for marriage against the influences which now threaten to destroy it.

Popular misinterpreters and critics of eugenics say also that eugenists wish us all to be "forcibly married by the police," and that they want to substitute for human marriage and parenthood "the methods of the stud-farm." No one who has made the smallest contribution to or performed the slightest service for eugenics has ever made such idiotic and hideous proposals; and it is

not easy to find any excuse for one or two comic philosophers who now have hold of the long-eared public, and who reiterate, year in year out, these gross misstatements of the eugenic creed.

Eugenics and class hatred.—Fourthly, the people called eugenists must repudiate those who seek to identify them with the cause of class hatred. Surveying the whole disastrous field of sham eugenics, one is inclined to regard this as the most dangerous and menacing at the present time, not only on its own demerits, but because so many professing eugenists, including not a few whose position makes them influential, are to be found amongst the ranks of those who seek to increase class contempt and class hatred on the ground that the "upper classes" are really upper in the vital and biological sense, and that increased attention to the needs, especially the children's needs, of the "lower classes" means national degeneration. This spirit of class prejudice and selfishness, which underlies the so-called eugenic activities of many professing eugenists, is the worst of all the enemies that eugenics has to face.

There is no trace of this spirit in the writings, there was none in the conversation or the character, of Sir Francis Galton. It is nothing other than the introduction of the rankest poison into the

young life of eugenics, and it must be fought at every turn. If ever and whenever the reader detects in this book any trace of the spirit which values human quality according to its origin in any class or sect or race, or of that which decries or denies fine qualities because they are displayed in a scion of a noble house, or because they are not displayed in a scion of a noble house, let him turn to something else, and wash his fingers first. There is poison in the leaves wherever this spirit of class manifests itself.

It is true that some of the researches of Galton himself, and of those who have worked at the problems of human heredity by his totally inadequate methods, have led to the conclusion that ability is a special characteristic of the "upper classes"; and this conclusion is loudly proclaimed, as is quite natural, by those members of the "upper classes" who least confirm it. But it was and is impossible, by those methods, to disentangle the influence of heredity, and that of the superior nutrition, sleep, air, light, education, traditions, opportunities, influence—factors as potent as they are obvious, which characterise the well-to-do, and must obviously be allowed for if any conclusions such as these are to stand. In point of fact, the study of heredity by the wholly distinct methods of the present day lends

no warrant whatever to the conclusions which have found so many interested friends; and, in any case, if the upper classes were really upper, the last way in which they could prove it would be by trying to keep the lower classes lower.

The people rightly called eugenists, therefore, do not include those who find in eugenics an excuse for the revival of snobbery. The eugenist cannot be a partisan. He is for the utmost of the highest life, wherever found, however obtainable; and if the true eugenist is asked whether he is an aristocrat or democrat, anti-socialist or socialist, monarchist or republican, conservative or radical, he can only reply that being a eugenist he is much too busy to be any of these other things—except that he is conservative in his attitude towards healthy stocks of mankind, and radical in his proposals regarding diseased ones.

Eugenics and popular education.—Fifthly, the people rightly called eugenists are not opposed to popular education, though some who abuse that name have spoken in that sense. It is indeed true that, according to eugenic teaching, education can educate only what heredity gives; but this article of the eugenic creed is very far indeed from warranting what too many people have lately begun to assert—that education has been tried and found wanting, that genius and talent

will always out, that, in short, education effects nothing, and even that efforts to save and educate the "unfit" are worse than useless because they handicap the "fit." The gravest disservice has already been done to eugenics by partisans of this ignorant and arrogant temper. They have already gone far to alienate from sympathy with eugenics all the educational forces in this country. Every true teacher knows that education is worth while, though no true teacher needs any statistical calculations to tell him that children vary in the amount of profit they derive from education.

It is certain that the aims of eugenics will never be achieved save with the co-operation of those who educate the nation's youth, and through their conversion to the eugenic creed, so that they in turn may teach it to those who are in their charge. In a paper read before the British Association in 1911 I therefore tried to show how indispensable the educator is in the eugenic interest, which can certainly not be served by attempts to decry him and his supreme task.

No partisanship nor insistence upon half-truths will do. Eugenics is for all mankind. It is the practical application to human life, present and to come, of the eternal principles of morality, which have ever sought the ennoblement, enhancement, and extension of life. The

people rightly called eugenists are no more to be found among those who take this project and use it for any partisan purpose than the people rightly called Christians are to be found among those who use their religion for the advantage of their business or their social position, as a cloak for private vices or public plunder. I cannot here recount the arguments to show that Christianity, Judaism, and Confucianism are definitely eugenic. Let it suffice to assert the eugenic conviction that the kingdom of heaven can come on earth only by recognising the sanctity of children, and that of such is the kingdom of heaven.

If the eugenist makes these claims, as he does, without fear of challenge, then he is entitled to protest that eugenics should no more be used for any mean or selfish purpose than should any other constituent of true morality or true religion. Eugenics accepts the words of Ruskin, "There is no wealth but life," and the motto of Watts, "The utmost for the highest." Those who do not assent with their whole nature and their utmost conviction to these words, and who would qualify them in the interests of their own self or family, or class or sect, or clan or race, are not the people called eugenists. The eugenic party knows no party, and is no respecter of persons,

because it is for all, and because it is pre-eminently the respecter of persons—honouring and seeking to produce fine persons and fine personalities everywhere, by every means, and caring nought for any other consideration.

The true eugenists.—Those who subscribe to this creed, who work for this end and no other, whether on a small scale or a great, humble in success, courageous in failure, absolutely and ineffably confident always that the future will witness more than they can dream of, content to lay the foundations of many generations, nobler and nobler yet, and to pass away ere the fruits of their handiwork can ripen or even the seed be sown—those who are dedicated to these ends, those whose personal ideal is this spirit and this temper, and whose racial ideal transcends even their dearest dreams—those, sagging but pertinacious, faint but pursuing, are the people called Eugenists.

CHAPTER III

NATURE AND NURTURE

If we are to follow the categories already suggested, and speak of Natural Eugenics and Nurtural Eugenics, we must define our terms.

Definitions. — Every human being is composed by the conjugation, fusion, or conception of two cells, one derived from each parent. What those cells bring and are is the "nature" or "heredity" of the new individual. When they unite they form a single cell, which would be only just visible to the naked eye, though it has never yet been seen. This *is* the new individual. All the influences which play upon, feed, mould, stimulate, aerate, poison, or otherwise affect the new individual, from the moment of conception to the moment of death, constitute its "nurture." How much this term means in the case of a human being, who not only breathes, as all living things do, but also reads, as no other living thing does, we must never forget. To use the term as if human nurture were *only* physical is to court disaster. We must remember that, if

eugenics is to be more than a glorified materialism, if it is to be indeed part of the religion of the future, conduct must be its ultimate criterion of human value; and the potency of spiritual nurture must never be forgotten, however clearly we may demonstrate the importance of heredity even in the psychical part of our being.

The change of environment called birth is only the transition from the stage of ante-natal nurture to that of post-natal nurture. We must never follow the popular confusion between ante-natal nurture and heredity. Heredity or inheritance is what is contained in the hereditary material, the two cells which united to form the new being. The nurture of that being is through its mother's blood before birth, its mother's milk after birth, or the milk of a bovine mother; but all is equally nurture. The point is vital, for otherwise we shall confound ante-natal nurture with heredity; and may blame "heredity" when we have neglected expectant motherhood.

Thus much being clear, the next proposition is that every characteristic of every living being is the *product*—not the *sum*—of both nature and nurture. However good the hereditary material, bad nurture will ruin it; worse, may kill it there and then. However good the nurture, it will fail to turn an ape into a man, a fool into a seer,

a brute into a poet. It follows that we must demand the utmost possible, alike from nature and from nurture, for our eugenic project; and that if we constitute ourselves advocates of either as against the other we are enemies of our cause.

The sequence of argument is clear. Everyone who cares for real things at all wants to make finer men and women; and the obvious method is to take more care of them—in all respects, from food for the body to food for the mind. That we have agreed to call nurture. But when the experiment is made, no doubt imperfectly, but yet sometimes with some approach to completeness, the results are often unsatisfactory. We institute national education, and many children benefit, but many do not; and these many failures show that nurture is not everything. At this point arrives the student of genetics, who declares that, while we have recognised nurture, we have forgotten nature, and this is the new and distinctive contribution of eugenics to the problem of making fine men and women.

Beginning at the beginning.—It is the eugenist alone, in his tiny minority, who says that we must begin at the beginning, which is not diet nor housing—no, not even ante-natal diet and housing—but heredity, or the inherent nature of that which we feed and house. Perhaps

we are trying to make a silk purse out of a sow's ear, and it cannot be done. The eugenist is right, and all the other party, including the politicians who live by majorities, must learn from him. The minority are right who, in all ages, but never so surely as to-day, have declared that the first necessity is to be well born, and the second to be well nurtured.

But we must beware lest the next proposition be that the nurture of those who are, or are supposed to be, not well born is not worth while. That is the pernicious, brutal, and stupid conclusion to which many recruits, entering the eugenic army in recent years, have committed themselves. If it were to prevail with eugenists in general the ruin of our good cause would be upon us. But no good cause can fail, and the only danger is lest the acceptance of eugenics by the present generation rather than the next be prejudiced through the disastrous advocacy of the brutal school.

The right of all to the best nurture. — The best possible nurture is none too good for any human being. Every human being who comes into existence is, by that fact, entitled to the best possible conditions for its nurture— according, of course, to the particular needs of its particular nature. Here is a fundamental

moral principle; and there is no compromise possible, nor ever can be, between those who accept and those who reject it. The instant that the conception of the two germ-cells has occurred, a new human life is in the world; and the very persistence of mankind is in danger if we relax the indefeasible rigour of the principle that that new life, at that and every subsequent stage, is entitled to the best nurture for its needs.

The eugenist sees, as no one else does, that in only too many cases the new life should never have been made. He sees, and must teach the world, that its care and control must begin earlier than ever heretofore. He must repeatedly protest against the folly and carelessness which have permitted, say, the feeble-minded girl of sixteen to wander in the streets and be ruined, and help to ruin the future, after the daily fashion which disgraces all who know and do not protest against it.

But the principle here laid down is that the instant a new life has been formed, and always thereafter, the claims of natural eugenics can no longer be heard in that particular case. The eugenist should have spoken sooner, or, if he spoke and was not heard, he must register his protest, and now proceed to make the best of a bad business, saying, "I told you so," at every

lamentable stage in the history of the half-witted or diseased child which the folly of society has brought into the world. But no matter what that new life may be, no matter how certain to be part not of the wealth but of the *illth* of the nation, no matter whether the invisible beginnings of its history are in a palace or a slum, or whether its parents be married or unmarried, that is a new human life in the world; it is therefore sacred, and entitled to whatever conditions will make the best of it that its nature permits. Not by denying this will the eugenist ever obtain the consent of public opinion to the merciful prevention of parenthood that can only result in offspring worthless to themselves and others, hopeless and dangerous whatever nurture, whatever love and money and tears, be expended upon them.

Logically, nurture comes second in our study and our campaign, and that statement of its place is the distinctive mark of modern eugenics. Nevertheless, I shall here deal with nurtural eugenics first, for sufficient reasons—above all, for the reason that it is necessary to counteract, if possible, the flood of statistical and pseudo-eugenic literature which teaches that nurture is of negligible importance. This kind of advocacy is approved by many eugenists because the num-

bers of their societies, for instance, increase; but a cause—eugenics, woman suffrage, or any other — is not progressing if, for every new adherent, it makes a hundred new enemies.

Always we are met with the old question, so familiar and so foolish—Which is the more important, heredity or environment, nature or nurture? To the biologist, who sees both factors necessary for every tissue, organ, function, feature of every living being, the question is meaningless. If a living creature were made of a piece contributed by heredity, and a second piece manufactured from the environment, and apposed to the first, the question could be asked and answered. But every iota of the organism is a product of multiplication, in which two factors, nature and nurture, are necessary, for we cannot multiply without two factors, and ten times nothing is not ten, but nothing.

When the biometricians tell the public and the biologists that nature is more important than nurture, say as regards longevity, the simple and final reply is, *What nurture?* And a few drops of prussic acid in the calculators' soup, no matter how long-lived their ancestors, would demonstrate in as many seconds that the question they have forgotten to ask is the whole question. They fallaciously assume a certain standard of

nurture, and then they show the importance of nature, against it. But let them take identical twins, of whom the nature is believed to be identical, and give one oxygen and the other nitrogen to breathe. Which is more important then, nature or nurture?

Every child needs adequate nurture. Newton was a weakly baby, prematurely born, and would promptly have been condemned as not worth keeping had the statistical school been in power in his day. No one knows how many babies, of priceless possibility, like Newton's, have been destroyed since his day, and before it, by defective nurture such as now destroys a hundred thousand infants in these islands every year—infants many of them as viable at birth, or, at any rate, at conception, as we who read and write these lines. Here, then, are asserted the claims of nurture for every new human life coming into the world; and those claims will only become more, not less, important the higher the quality of human material that may in the future be made available by natural eugenics, for the finer the hereditary possibilities the more care will they need and repay, and the greater will be the loss if they do not receive it.

If we were merely discussing the amœba, we could limit nurture to a few matters of water, salt,

air, and the like. But if we speak of man we need to include not only all that is included under the nurture of the lower animals and plants, but also a vast realm of influence to which man alone can respond. The biometricians attempt to measure the transmission of ability as they reckon the transmission of eye-colour ; but while eye-colour does not depend upon the books the eyes survey, ability has something to do with learning to read, learning to learn, and the question whether one's mind is fed upon treasure or trash. These highest parts of man are the most complex products of all the known universe. Ability, for instance, depends partly upon heredity, as the eugenist must ever insist, but it also depends upon education and inspiration, and the presence of certain compounds in the diet, and the development of certain small glands, the non-activity of the thyroid gland in the neck being alone sufficient to reduce any genius to idiocy. That is why physiologists, doctors, teachers, are simply made hostile or indifferent to eugenics by calculations which treat the inheritance of ability as if it were a parallel problem to the inheritance of blue or brown eyes.*

* Even there nurture tells. Sir Ernest Shackleton tells us that the eyes of all his party, after six months' Antarctic darkness, were blue or blue-grey.

Then there is social psychology to reckon with, as Sir Francis Galton knew, though so many of his followers have forgotten it. A man's conduct and a man's collar-bone are not similarly determined. The nurture of a man includes public opinion, the influence of other personalities, the great factors of imitation, suggestion, and sympathy. Every man has seven vertebræ in his neck; there is no case on record of any other number, for no feasible variations in nurture will alter the number. But a man's beliefs and a man's backbone cannot be suitably compared when we are discussing nature and nurture; and whatever induces or produces beliefs, influences conduct and in part determines what the man is. Man has not only his physical heritage, but his social heritage, infinitely various, immeasurably potent for good and for evil. We may present the mind of the adolescent boy with the printed wickedness or the printed nobility which are both part of our social heritage. The so-called eugenics which denies the difference and the consequence is not worth a sneer.

Evidently nurtural eugenics, thus adequately conceived as the sum of all the influences which nourish, mould, and modify the individual, must include many sciences, such as education, into which we cannot enter here. Here we do homage

to them, honour them for their services to our cause, commend their study and application, dissociate ourselves from those who would decry their importance; and must then pass on to a brief survey of the fundamentals of nurture looked at from the eugenic point of view. Before all, we must insist upon beginning at the beginning, which is the expectant mother, as such eugenic races as the Jews have done, recognising for thousands of past years the importance of antenatal nurture. Meanwhile we must steadily remember that what we ask for will never rightly repay us until the demands of primary or natural eugenics have been satisfied, and we have nothing but good material to work upon.

CHAPTER IV

THE RIGHTS OF MOTHERS

If we wish to grow oaks, we admit the rights of acorns to due nurture from the first; and must remember that the acorn, even, has its period of formation and development in the maternal tissues of the tree which bears it. If we wish to grow men and women, we similarly admit the claims of their earliest stages to due nurture. It will be said—it is said in a eugenic journal as I write—that this is not eugenics, unless our care of immaturity should be shown to make for the survival of a higher proportion of the so-called "fit." But it *is* eugenics, and for two reasons. First, it is eugenics because it conforms to the definition given by Galton himself in his first and most memorable paper before the Sociological Society ten years ago. This can be logically defended in terms of living beings as they are, while later definitions omit the essential fact of nurture. Galton's words were these: "Eugenics is the science which deals with all influences that improve the inborn qualities

of a race; also with those that develop them to the utmost advantage." The second clause admits the whole of nurture within the scope of eugenics, as any useful or logical definition must. The care of infancy therefore is eugenics, according to the definition with which its founder started the modern campaign ten years ago. I am aware that, under pressure brought to bear upon his extreme old age, Galton later adopted a definition which omitted any reference to nurture, but I prefer that which he offered ten years ago, and for which a logical and biological warrant exists.

And secondly, the care of infancy is the care of future parents. If it can be shown, as it can, that the nurture of future parents may affect the quality of their offspring, then attention to such nurture is fundamental eugenics if anything is; and none the less so though it has hitherto been ignored by eugenists altogether.

The first stage of nurture.—Now the first stage of nurture is ante-natal, and therefore our first concern must be the care of expectant motherhood. The expectant mother is not, as we say, "about to become a mother." She is already a mother, and her child already needs her care and ours. Whenever and wherever eugenics is or has been consciously practised, whether by Lycurgus in Sparta, eight centuries

before Christ, or by the Jews, or by the finest of modern "savages" so-called, or in the legislation of a few progressive nations to-day, there we find the needs of expectant motherhood recognised. Among ourselves, the expectant mother who has been condemned to be hanged is reprieved. Herein we admit and grant the rights of the unborn. But what we grant for the unborn child of the murderess—a child not likely to be above mediocrity in its natural endowment—must henceforth be granted for all unborn children and all their mothers. It is argued that, though the murderess has taken a life, she is now creating a life; and for the sake of that life, not for her sake, we spare her. Here the eugenist demands as good treatment for all mothers as for those who are not murderesses as well.

This tremendous illustration, as it surely is, serves to show what is here meant by the Rights of Mothers. The cautious and thoughtful may well be alarmed at any assertion of rights to-day, when duties are so far forgotten. The basis of the rights here asserted is very different, however, from that of the "divine right of kings," "the rights of wives," "the rights of women," or "the right to work." The only divine right of kings is, as Carlyle said, the divine right to

be kingly men; and the "right to work" means merely the right to wages—quite a different thing.

A biological basis for the rights of mothers.—But in asserting the rights of mothers we are beyond challenge, so long as individuals are mortal and parenthood alone can replenish the race. The basis of this claim is not political but biological. The rights of mothers, vitally speaking, are the rights of the future, which mothers produce. We are not here asserting the rights of women, as such, nor of wives, as such, any more than the case above cited asserts the rights of murderesses, as such. That is why the illustration is so cogent. According to our present legal code the individual murderess has forfeited *all* her rights; but she must be spared because of the life to come. The claim here made, therefore, is evidently none other than the claim, already granted everywhere in principle, that the next generation is entitled to due nurture.

A lesson from the bees.—It is impossible to think usefully of the rights of mothers without realising that this is, from first to last, a question involving fathers too. The bee-hive is a notable illustration, as M. Maeterlinck has taught us all. Here is a great community based wholly upon the principle of the rights of the one mother

upon whom the future depends. Men used to think that the mother was the "queen," and gave orders and ruled the hive. This they inferred from the fact that the hive seems to exist for her, and that no one lives or moves therein but in her service. But the "queen bee" gives no orders, and does not even direct or control or have a vote for any stage of her own conduct or nurture. She is the mother, not the queen nor the voter. The whole future of the race absolutely depends upon that one mother, and her rights are granted. If the whole of our next generation were to be born of one mother, we should take care of her too.

As for the drones, they are kept for fatherhood, and for nothing else. So soon as the queen is fertilised by one of them, they, being thereafter useless, are one and all destroyed. The theory of the bee is the theory of life—that *the useless have no rights*. So the one mother is served with the rights of a queen, and the useless males, who would otherwise consume the food which is destined for her children, are promptly killed. We are more lenient with our human drones—fathers whose fatherhood does not extend beyond their pleasure—and we often allow them to consume their children's bread; but we shall be as wise as the bees some day.

If we are to learn the ancient lesson of life, it is evident that we must take care of all babies and all mothers, young or old, high or low, married or unmarried. We regret the unmarriage of many a mother; we should have taken better care of her adolescence and her betrayer's. Our business now is to take care of her and of the new life for which we are doubly responsible. The rights of mothers, then, are neither legal nor "moral"—in the customary sense of *customary*—they are vital and natural, moral in the ultimate and eternal sense. If we are to have fine people, or people at all, we must begin at the beginning, which is not the rifle-bearing age (when some patriots first notice them), nor childhood, nor infancy, but earlier still. And even though the motherhood we care for may often be worthless, we must care for it none the less, not least in order that the feeble-minded girl, for instance, may be so protected that she can never become a mother again.

Though our present chapter is entitled "The Rights of Mothers," we are really beginning at the beginning of nurtural eugenics. It is this beginning that has forced the expectant mother upon our attention, because she is the first nurture and first environment of the next generation. But this logical order, which puts expectant

motherhood in the first place, has not been followed by social reformers. On the contrary, philanthropists, educationists, and politicians have begun anywhere but with the mother.

The origin of adults.—In Great Britain we began by deploring the condition of young male adults, during and after the Boer War, from the point of view of the recruiting sergeant. The proposed remedy was physical training of such young adults, thus ignoring the whole of one sex, and assuming that the use of dumb-bells can straighten knock-knees produced by rickets fifteen years previously, or replace teeth whose sockets have been empty for a decade.

It was necessary to go back a little. Probably these recruits had once been younger. The propagandists then discovered the school child. We had had national education for thirty years, but no doctor had ever entered one of our schools. We began to study these children. Nothing could foil the unweary genius of these investigators, once it got afoot. With searching logic, having inferred, from the adolescent, the possible existence of childhood, they inferred from childhood the probability of babyhood; and after critical inquiry their ratiocination was justified. There *were* babies. Furthermore, these babies died by scores of thousands yearly, and a far larger

number, who did not die, were damaged, and that for life. The campaign which had begun with proposals for exercising recruits in barrack-yards was compelled to condescend upon the care of infancy, it having been proved up to the hilt that you cannot have a soldier or a sailor, a member of Parliament, or even a mere useful citizen, without having first saved a baby.

Back to the expectant mother.—Even here we had to learn to go back if we would go forward. The French, our mentors, began with milk for infants, but soon they fed the nursing mother instead, and finally the expectant mother. Thus science, practice, and now, in Great Britain, even legislation have converged upon the problem of expectant motherhood, once and for all. They have been a long while in getting there, considering how long ago Moses lived, but there they will stay while and if civilisation endures. Our national task is now to accept the permanent principle here laid down—that *its expectant motherhood should and must be the first charge upon the resources of any nation.* At all costs, we must solve the economic and social problems which this proposition involves. They are economic because they concern the whole question of " married women's labour," and social because

they involve the whole question of marriage, and the duties of fatherhood.

The pioneers, Professor Pinard of Paris, now a vice-president of the French Society of Eugenics, and Dr. Ballantyne of Edinburgh, my honoured teacher, have proved that the state and prospects of the infant at birth are greatly affected by the conditions that precede the birth. The babies born of working women who can rest—as we stupidly say, for how can an expectant mother "rest," who is continuously making, feeding, aerating, draining a growing body?—during the later months are markedly larger and finer than those of mothers who have had to work in the obvious way until nearly the end.

Says Dr. Havelock Ellis *:—

"Such rest is a powerful agent in preventing premature birth. This is an important matter, for in civilised countries to-day—notably in England and France—it is estimated that one-third of the births are premature; and the child which is born before its time comes into the world in a relatively unprotected state, and is unduly liable to perish, or else to lead a permanently enfeebled life. In most English towns immaturity is regarded as the chief single cause of infant mortality, accounting for about 30 per cent. of infant deaths, and for a large proportion of relatively defective individuals among the survivors.

* In his "Problems of Race-Regeneration" (New Tracts for the Times).

"It has been found that rest during the later months of pregnancy is a powerful influence in the prevention of the birth of immature children; the average period of development within its mother's body is three weeks longer for the child of the mother who rests during the latter months of pregnancy—for rest during the earlier months has comparatively little influence on the child—as compared with the child of the mother who has enjoyed no such rest.

"Such opportunity for completing its development is of immense and lifelong advantage to the new-born infant, while the rest is also of benefit to the mother, who cannot with impunity stand the double strain of work and of nourishing the future child within her. Yet the importance of such rest for women, in its bearing on the elevation of the race and the lightening of social burdens, is still understood by few and is not adequately insisted on and provided for by the laws of any nation.

"More than ten years ago (in 1900) the International Congress of Hygiene passed a resolution that every working woman is entitled to rest during the last three months of her pregnancy. No such measure can be anywhere realised without the active co-operation of the community providing for the mother during the period of enforced rest, but no community has yet shown itself intelligent enough to realise the need of making such provision in its own interest.

"So true is it, as a distinguished authority has stated, that 'to-day, the dregs of the human species—the blind, the deaf-mute, the degenerate, the nervous, the vicious, the idiotic, the imbecile, the cretin, the epileptic—are better protected than pregnant women.' We shall some day have to reverse this estimate of the values of things."

The ultimate principle, biological, sociological, and eugenic, which is here advocated under the name of the rights of mothers is abundantly supported by these considerations. We see, now, that the expectant mother is in actual fact working, and that if we ask her to do any further kind of work we are simply sacrificing the future to the present. But nature never fails to avenge herself on the spendthrift, individual or nation. Our business is to recognise that the expectant mother is doing our business, indispensable and exacting business, and we must take care of her accordingly. She is not only a worker, but the foremost of all workers.

The nursing mother.—The argument applies to the nursing mother, and to the second stage of nurture, which is the nursling stage, just as much, or almost as much, as it applies to the expectant mother. It has been estimated that the production of milk for six months' nursing involves the same amount of work as would raise a ton-weight eight hundred feet high. When we consider what this work is for, what it is that the expectant and nursing mother produces, and what kinds of things are produced by most of our national industries, there is surely warrant for declaring, yet again, that the culture of the racial life is the vital industry of any people;

that the economic rights of mothers, as mothers, are therefore paramount; and that she who creates the future, the maker of life and carer for life, is surely the last person to be in a position of economic insecurity in a sanely constructed society.

Ways and means.—There remains the problem of ways and means, which we must keep clear and definite in our minds, and consider apart from the merits of our principle. If we confuse the principle with the economics of its application, we prejudice both. Ruskin knew that the principles of life must come first, and economics, sooner or later, must adjust itself to them. "I hold it for indisputable," he wrote, "that the first duty of the State is to see that every child born therein shall be well housed, clothed, fed and educated, till it attain years of discretion." A comparative study of legislation to-day is outside our present purpose, though no one can miss the significance of the recently imposed surtax of twenty per cent. on bachelors in France. One question of principle alone concerns us here.

For some champions of what they call progress have lately revived a simple, old suggestion, designed to meet the case, but somewhat more designing than this case requires, which they call the "endowment of motherhood." Between

their proposals and any here intended there is an everlasting opposition which no similarity of terms or even ostensible objects can cloak. The so-called endowment of motherhood, by the State, proposes to serve motherhood by discharging fatherhood from its duties. On whatever road the feet of Progress and Eugenics may fare, this is none of them. It is not progress, but full retreat, helter-skelter back to the beast.

Duties of fatherhood.—The popular novelist whose name has become associated with such proposals in Great Britain, declaring that the business of the State is now to abolish the private family as it has abolished the private gasworks, and dismissing, as "a matter of detail," the question whether the father should have any share in the upbringing of his children, is directly contravening the age-long principle that men must be more, and not less, responsible for their acts, and, above all the principle now inculcated by eugenics, that men must be most of all responsible for the most momentous and deliberate act of all, which is fatherhood.

As I have formerly argued, the essence of marriage as a social institution is that it provides *common parental care* for the offspring. It grants, in some measure, the principle of the rights of mothers, by exacting from the father certain

duties towards the mother and her child. Marriage has always expressed the idea, which eugenics involves, if it involves anything, that parenthood is to become more, and not less, responsible. Modern thinkers clearly see this as regards the mother; those writers who do not see it as regards the father can scarcely claim the higher title.

The duty of the State, and the business of Religion, is not to do the father's duty for him, but to *enable* and *compel* him to do it himself. If the father be dead or otherwise incapable of doing his duty, then the business of the truly united Church and State, and of every eugenist, will be to follow the injunction of St. James—"Pure religion and undefiled . . . . is this, to visit the fatherless and widows in their affliction."

Thus, if we trace nurture back to the beginning, we reach the father of the new child, and assert that the principle of the rights of mothers —that is to say, the rights of children and the future—involves the duties of fathers. In Great Britain no true eugenist can hesitate to approve the principle of "maternity benefit," whereby the prospective father is compelled to put money aside so as to contribute towards the care of his wife when she becomes a mother. Our recent task has been to deal with politicians and others,

so that this benefit may indeed serve the race, and not become, as it was in hosts of cases, until we obtained amendment of the Act, a publican's benefit. Maternity benefit is a beginning; and we may well hope that, in perhaps another century, the laws of Great Britain may guard the rights of mothers nearly as well as the laws of Moses have done these past three thousand years.

Above all, recent legislation is beginning to provide for the nation's mothers the fundamental need of safe and skilful attendance in their most critical hours. The work of Pasteur and Lister has made a new age in this respect, yet many mothers die in consequence of child-birth for lack of responsible care; many are ruined for subsequent motherhood; and innumerable eyes of infancy are destroyed for ever when first they open upon the light. But none of the clerical moralists who thunder about the falling birth-rate are heard to protest against this perennial and unnecessary destruction of those who make all the birth-rate there is.

State obstetricians.—Here I repeat the demand, which will certainly one day be granted, for the establishment, in association with the system of maternity benefits, of a class of State Obstetricians, keen, competent men and women,

Listerian to their finger-tips, who shall protect and serve the nation's mothers, and keep them alive and well for future motherhood. I had hoped that our national memorial to Lord Lister might have taken the form of a Listerian Order of such men and women, who would carry his saving practice, for all future time, into every room where life is coming to the light. This would have been a living memorial to a champion of life. But, in any case, the first of the rights of mothers to-day is that, in this age of Listerism and bacteriological knowledge, they shall no longer be poisoned and killed, or damaged for life, by our failure to apply to this supreme case, the creation of life, the knowledge which we already apply upon the battlefield to the arts of its destruction.

CHAPTER V

THE CARE OF INFANCY AND THE "HOME CHILD"

THE first year of post-natal life corresponds approximately to the due duration of breast-feeding, and thus comprises the *second*—not the first—stage of nurture. The demand to be made for this period of life is that the conditions necessary for maternal nursing shall be made possible by society. The efforts of those who have long protested in this respect are being slowly but certainly met. Since the present writer joined their ranks, a dozen years ago, the infant mortality in Great Britain has come down from about 145 per thousand to the "record" of 95 per thousand in 1912. Even in the previous year, when the climatic conditions were the worst possible, the figure fell far below the average of previous years. The work referred to in 1909 has now been much extended. There has recently been formed under the patronage of the King and Queen and the chairmanship of Sir Thomas Barlow, head of the medical profession in this country, a National Assocation

for the Prevention of Infant Mortality and the Welfare of Children under School Age,* which has favourably affected legislation, and is at the time of writing specially concerned to obtain that registration of still-births which all students of vital statistics have long demanded. On the occasion of the International Medical Congress in London in 1913, we held an English-speaking Conference on Infant Mortality, with the valuable aid of authorities from the United States, where this question is being so splendidly dealt with, and from many of the Colonies. The reader who wishes to become acquainted with the most recent knowledge on this subject should consult the report of that conference. Within the limits of so brief a volume as this, space only avails for the important task of defining the relation of this subject to eugenics, and of entering a protest against the views which many so-called eugenists, without medical training or experience, now hold.

"Natural selection" and eugenics.—According to the writers referred to above, a high birth-rate and a high infant mortality are to be commended, because of their "selection-value." The argument is that a large number of births offers, first, material in abundance, which will include many "fit" types, and, second, that it implies

* Office at 4 Tavistock Square, W.C.

a stringent struggle for existence, with consequent "survival of the fittest." But, waiving here the observation that "natural selection" is being curiously revived by these inexperienced eugenists just when it is being discarded by biologists, we may note that any process of selection which can be justified must weed out the worthless without damaging the worthy. Such is the presumed action of natural selection. But to talk of natural selection in anything so hideously unnatural as a slum is wildly unscientific, as Darwin and Wallace would be the first to point out. The strenuous opposition offered until his death by Alfred Russel Wallace, part-author of the theory of natural selection, to the arguments here impugned is worthy of note.

What really happens in a slum, of course, is the damaging of all the life therein. The slaughter and the damage are naturally greatest among the most immature and exposed, which are the infants. Many unborn and new-born infants of modern so-called civilised communities are exposed to a combination of artificial conditions of dirt, foul air, improper feeding, alcohol, bacterial infection, darkness, and so forth, which have no parallel anywhere in the living world, and the doings and the results of which are so im-

measurably different from anything in Nature that to describe the process as the beneficent play of natural selection is inexcusable. Not merely is this hideously unnatural, which is difference enough, but it damages the survivors.

This is really the central fact of the case, and disposes utterly of the better-dead school. Professor Karl Pearson has lately made an attempt to prove the contrary,* and to show that "Darwinism does apply, and very intensely applies, even to man under civilised conditions." He concludes that "a heavy death-rate does mean the elimination of the weaklings," and that "for a constant environment, the higher the infantile death-rate, the more resistant will be the surviving child-population." This conclusion is based upon the assertion that in this country we have a "falling child death-rate accompanying the rising infantile death-rate." He states also that "the improved environment of the last thirty to forty years has not effected any improvement in the infantile death-rate," and, *writing in 1912*, that "the infantile mortality in England and Wales has not been falling but steadily rising since the restriction in size of families."

* Proceedings of the Royal Society, B, Vol. 85. Paper on "The Intensity of Natural Selection in Man," read June 27, 1912.

From beginning to end the whole of this paper is a sustained argument based upon asserted "data" which are untrue. The only colour for them is obtained by arresting the figures at the year 1900, just before the attempt to improve the conditions of infancy was begun in this country. An author who tells us in 1912 that "the infantile mortality is steadily rising in this country," when students of the subject were already correctly predicting, for that very year, the lowest rate on record, and when the figures had been steadily improving — with fluctuations, of course—for ten years, convicts himself of gross and inexcusable ignorance. It is a pitiable thing that the resources devoted to eugenics by its modern founder should issue in such "work" as this.

The blessed facts are that infant mortality and child mortality are steadily declining *pari passu*. By careful and exhaustive inquiry, resulting in two special reports * on the subject, to which the student is referred, Dr. Newsholme, the Medical Officer of the Local Government Board, has shown that, all over the country, the infant death-rate and the death-rate at subsequent ages go together. If in a given place infants die at a high rate, so do children

* Local Government Board, 1910, Cd. 5263, and 1913, Cd. 6909.

and young people at all ages up to adolescence.* It is very difficult to ascertain the death-rate at still later ages, owing to migrations. But the evidence is final that at all ages short of maturity, human life, as a whole, is unduly destroyed wherever infancy is unduly destroyed, and is best maintained where infancy is best maintained. It follows, evidently, that if we want grown-up people at all, and still more if we want them as healthy as possible, we must begin by removing the causes of infant mortality.

It is clear that if the same cause equally attacks two babies, one naturally weak and the other naturally strong, the weaker will be the more likely to die. If it could be contrived that the stronger was not also injured, there would be something to be said, on brutal and pseudo-eugenic lines, for the process. Once it is proved, however, that the weeding-out process makes far more weeds than it destroys, the argument for it is gone. And, further, the argument at best is not eugenic. Natural selection and eugenic selection may have the same effect and end, but they are fundamentally distinct in method.

* Even assuming that Prof. Pearson was entitled to stop his figures at 1900, and to say in 1912 that infant mortality is steadily rising, we may note that the increase he alleges up to that date is due to a statistical fallacy, which was pointed out in the Journal of the Royal Statistical Society in 1901, and that, when the life-table figures are prepared by a constant method, the mortality is found to have *declined*.

Natural selection is a selective death-rate, killing those less able to survive, but eugenic selection, in Professor Pearson's own admirable phrase, replaces this selective death-rate by a selective birth-rate ; and no form of killing or permission of killing can be anything but a negation of the essential characteristic of eugenics. The eugenist has every right to say, and must never cease saying, that many children are born who should never have been born, or, rather, who should never have been conceived. He has every right to say that the feeble-minded, and the alcoholic, and the insane, and those afflicted with venereal disease, must be so guarded and treated in future that they shall not become parents at all. But the instant he approves of the death of any who live, worthy or unworthy, he is talking not eugenics but its opposite, of which the most familiar and accurate name is murder. That, indeed, is the only name for our infant mortality in this country to-day. It is simply national infanticide on a gigantic scale, and much worse than admitted infanticide as a social custom, which kills *or* spares while we kill *and* spoil. Further, our conditions kill a disproportionate number of boys—who are thus presumably the "unfit," according to the better-dead school—and thus leads towards that numerical excess of adult women

which, wherever it be found, is the underlying cause of many social evils.

Motherhood and mothering.—The next great business of civilisation, if it is to practise even that *minimum* of national eugenics without which it cannot persist, is, first, to take care of expectant motherhood, and then to restore that vital association of mother and nursling which modern economics, aided by not a few blind guides of modern womanhood, has so frequently broken. If we are to save infancy, and make the most of what birth-rate we have, we must save motherhood, mothers being the natural saviours of babies.

This is Nature's plan, steadily adhered to ever since she invented the Mammalian Order. We have tried, and many of us are still trying, to find substitutes for mothers, and to rear babies by other means. The milk-depôt, the public nursery, the incubator, the fractional analysis of cows' milk, all have their uses and their places; but if any great truth emerges from the experience of the last decade, it is that the greater and more skilful our efforts to do without the mothers, the more clearly do we learn that we cannot. We must accept, for this second stage of human nurture, the same principle as we learnt in our study of its first stage; if the expectant mother

is to be the first charge upon the national resources of forethought and material provision, the nursing mother is certainly to be the second.

In Great Britain our pioneer has been Mr. Benjamin Broadbent, of Huddersfield. To him above all we owe the Notification of Births Act, which should now be made compulsory, instead of merely adoptive. If we had a Ministry of Eugenics, or even what we shall sooner have, a Ministry of Health, in this country, it would not be possible for "maternity benefits" to be discussed for months, in Parliament and outside it, without so much as mention of this Act, which should obviously be worked in association with maternity benefit. And some day, perhaps, the future mothers of the nation will be taught and trained in vital matters, vital for mothers and therefore for babies and empires, even though they may have to sacrifice therefor some scintilla of accuracy in regard to the imports of Rio de Janeiro, or the parentage and sequence of Henry the Eighth's wives.

Mother-and-child worship. — The students of the religions of mankind tell us that in the East and in the West, in the remotest ages of Indian or Egyptian culture, as in many manifestations of more recent religions, they find what they can only call mother-and-child worship.

There are few more significant facts in the record of mankind. The ideals and the creed of eugenics, the newest and probably the oldest ingredient of religion, demand a living practice of mother-and-child worship in our own day. If these religions, ancient and modern, mean anything, they mean that motherhood has in it something sacred, and that every baby has in it something not of the human only, but of the Divine as well. Everywhere in the coming world we shall find eugenics and hygiene, philanthropy and patriotism, restoring upon deeper foundations than ever the altar of this worship. And ever the choice will remain, so long as man is mortal, between the calf of gold and the child of flesh and blood.

Such will be the religious foundation, desired by Galton himself, for the positive eugenics of the future. By that term I mean the encouragement of worthy parenthood. Recently some writers have taken it to mean the encouragement of a birth-rate, of all kinds, and a consequent selective struggle for existence. Let the advocates of this ugly theory find a term for themselves. That is not what I mean by positive eugenics.

Care of the "home child."—Next we reach the most neglected period of growing life—the interval between infancy and the school age, which in Great Britain is five years. For long

I have urged that, on the evidence before us, we must obtain some means of safeguarding this period. At the English-speaking Conference on Infant Mortality, held in London in 1913, evidence was brought forward showing that the second year of life furnishes the chief incidence of rickets. Medical inspection at entry into school proves that irremediable damage has already been done in hosts of cases—two out of three (67 per cent.) according to the most recent figures for London. We need to recognise and care for the existence of the child at this period. It is no longer an infant, nor yet a school-child. It needs a name, and as its due and ideal environment is the home, I proposed at the Health Congress in York, in 1912, that it should be called the home-child. Medical inspection of these children is the next and most obvious need in our national nurture. Rickets—the English disease, as it is called on the Continent—is the characteristic disease of this period. It is a wholly and readily preventable malady of malnutrition solely, without any hereditary cause; it strikes at the very foundations of personal health and efficiency, and no eugenist, in the existing state of science, can say that it is without deleterious influence upon the growing germ-plasm as well as upon the other tissues of the body.

Medical inspection of schools, and school clinics.—For the emphasis it deserves, let us repeat the extraordinary history of the last decade.

During and after the Boer War it was found that many would-be recruits suffered from physical defects, and an official inquiry was set on foot to inquire into physical training in Scotland. The report of these inquirers was unsatisfactory, as regards the conditions found, but it served the purpose of a strong man who yearns to make others strong, and who issued a copy of the report in parallel columns with his own comments as to the value of certain exercises.

By a bold hypothesis, certain observers, however, were led to inquire whether the spoilt adolescents had not *once been younger*, and Dr. Leslie Mackenzie verified this induction by a visit to the slum area of the North Canongate of Edinburgh, where certain small creatures were found who might be regarded as inchoate specimens of the spoilt soldiery already encountered. Having examined the children at school there—the first official visit ever paid by a doctor to our schools, and this a generation after 1870—he came to certain conclusions which led to a general inquiry, south of the Tweed also.

The end of the story—or, perhaps, not quite the end—is that now we have medical inspec-

tion of schools. School clinics have followed, very slowly but very surely. Numerous other devices have been and are being tried, apparently because none of them could possibly be compared with the obvious method of having competent doctors in connection with the schools, and places for them to work in. The results now being obtained from school clinics are admirable.*

Thus, with teacher and doctor beginning at last to work in harmony and co-operation, we reach the end of the second septennium of life. All the problems of education, physical, intellectual and moral, are here involved. My business in this place is merely to acknowledge their immense importance, to pay homage to the many wise and patient men and women who are in process of solving them, and expressly, in set terms, to deplore the attitude of those so-called eugenists who decry education, and quote its results, without having first ascertained whether what they ridicule is the real thing or one of the many imitations thereof. What real education may yet achieve we can only guess.

* The reader may consult "School Clinics, at Home and Abroad," by Drs. Leslie Mackenzie and Cruickshank, published by the National League of Physical Education.

CHAPTER VI

REAL EDUCATION—A SOLDIER TO THE RESCUE

THERE are those who help us to guess aright. In the nineteenth century Herbert Spencer was the master of them—a cloistered bachelor and a priori thinker, typical in many respects of the eccentric philosopher, and yet the very master of practice in education. In the twentieth century a famous soldier takes up his task in turn, and becomes the greatest educator of our time.

The Boy-Scout movement.—This movement is only some five years old, but it is rapidly conquering the world. Its development is, in my judgment, the greatest step towards the progress of eugenics since 1909. Scouting goes right down to the fundamental and general instincts of boyhood. The staggering contrast between its results, *where you will*, and those of what we are pleased to call "national education" depends upon its recognition of the primary necessity which Herbert Spencer long ago laid down for all education that is to succeed. The first and indispensable need, he said, is that the

teacher shall understand the psychology of the taught. In national education, men have hitherto assumed that boys—and girls!—are simply small and ill-informed men. We have dispensed information copiously, at intervals applying an emetic called an examination, whereat what we have crammed the children with is returned, unchanged by any digestive process, upon sheets of paper which we later con and appraise. Then, on all sides, is raised the cry that intelligent young people, with initiative and adaptability and disciplined minds, are not to be had, that young wives cannot cook or housekeep, and that young mothers slay their first-born with the best intentions.

In 1870, at the beginning of national education, Ruskin declared that education was a good thing, but that first we might need to ascertain what it was. But now has come Sir Robert Baden-Powell, with what is incomparably the greatest constructive idea of our century. (Eugenics, though only now reaching the public mind, was conceived at least in principle and christened in 1884.) The inventor of scouting began with the pre-requisite defined by Spencer. Setting out to educate boys, he began by understanding them, not in their accidents, but in their essence, so that his scheme works just as

well in Paris or Lisbon as in London. Though he is a grown man, a world-famous and veteran soldier, he has retained what most men have lost—the faculty of seeing the world as we all saw it when we were boys. Only such a man, of course, could invent a system for educating boys, and that is what he has done. Nothing can now stop scouting, not even the jealousy of military authorities, nor the advocacy of its least comprehending commentators. Only some general biological mutation of our species, by which boy-nature became other than it is, could do that.

The Girl-Guide movement.—The only criticism of scouting, as a fundamental need of nation-making, was that it left out half the nation, or rather more, and that the more important half, racially speaking. The Girl-Guide movement meets that need, by a just adaptation to the psychology of girlhood; and women whose judgment is unquestionable have found words fail them in telling me what this movement has done and is doing for girlhood under their own eyes. As I write, the first Girl Guides are being prepared for in France.

Unfortunately, scouting is still largely misunderstood. This is our fault, not the Chief Scout's. His book, "Scouting for Boys," is to

be had for a shilling, and no one who has read it can misunderstand scouting thereafter. Sir Robert's spoken word is just as good. Not long ago I heard him lecture at the *Times* Book Club, and every word he said should have been reported verbatim next day in every paper that cares at all for England. But at the end of the lecture a gentleman got up and said that now we needed someone to do for the Navy what Sir Robert had done for the Army; and never did anyone look more miserable than the lecturer whose every point was thus being perverted. The object of scouting is not to make soldiers; it is the object of national education, which is to make citizens and men. Its aim is not muscle but character. "I believe," says Sir Robert,* "that training in citizenship, character, discipline, and patriotism is infinitely more important than soldiering, for which they are also essential foundations." Are they not also essential foundations for eugenic parenthood?

War a dysgenic institution.—This great soldier, who kept our flag flying, leaves the praise of war to those who have never seen it. He knows, like all students of the subject, the lamentable moral degeneration which war breeds in its survivors. He has called war "an anachronism,"

* *Times*, Nov. 6, 1913.

has praised "Peace Scouts" like David Livingstone and Captain Scott, and has argued that scouting serves peace by making friends of scouts in all parts of the world. If scouting were a military movement, however efficient its products, I could only deplore it here on eugenic grounds, for the evidence is overwhelming that, as Dr. David Starr Jordan has argued so splendidly in his "Human Harvest," modern war is appallingly dysgenic by its destruction of virile men. This is the profoundest of the many senses in which Benjamin Franklin was right when he said, "Wars are not paid for in war times: the bill comes later." That great thinker, and many historians, have seen and demonstrated the dysgenic action of war, against which every true eugenist is therefore bound to range himself.

With and upon that assertion, and writing in that belief, I express my conviction that if national eugenics is ever to be achieved in Great Britain it will come through the Boy Scouts and the Girl Guides, who almost alone, of all our young people, are being made ready, by "training in citizenship, character, discipline, and patriotism," for education for parenthood, which must be the beginning of national eugenics. This movement is what national education in Great Britain has tried and failed to be for forty years.

Why should we not forgo the perennial delights of our ecclesiastico-political squabbles over the bodies and souls of the nation's children, and try to help the Chief Scout to save them for themselves and for the future instead? *

Addendum.—In revising these pages I am delighted to be able to add that Dr. Starr Jordan, the official head of American Eugenics, has consented, as I learnt when praising the Scouts to him in conversation, to become Vice-President of the Boy Scouts in the United States. This is the very linkage for which this chapter is a plea. It is made all the more appropriate and necessary by the fact that Sir Robert Baden-Powell has now asked for funds which will be used, in part, for the development of scouting *during the adolescent period.* When this is achieved it will be evident that it furnishes the opportunity for eugenic education, or education for parenthood, as never before in our history.

* These arguments were first published in September, 1913, and lest the reader should think that my beliefs in this respect are those of a crank, or depend upon some personal interest in some particular scout or scoutmaster, it may be noted as an interesting coincidence that two days after my publication of them (*Pall Mall Gazette*, Sept. 10), Principal Griffiths, in his Presidential Address to the Education Section of the British Association at Birmingham, made similar claims for scouting, and expressed the wish that Sir Robert Baden-Powell might be made our Minister of Education for the next ten years, with absolute power.

CHAPTER VII

ADOLESCENCE AND EUGENIC EDUCATION

HAVING considered, in logical order, the successive stages of nurture through which the single cell formed at conception develops for some fourteen or fifteen years, we reach the momentous and, in a sense, final period known as puberty, which is the beginning of adolescence. This very word means the *birth of the adult*, and the adult, biologically and eugenically speaking, is he or she who can become a parent. Thus the vital cycle is in the act of completion; we began with the product of parenthood, and we have traced its history and needs until itself can become the parent of yet another generation. If ever nurture be worth while, surely it must be now, when the young being for whom we care becomes capable of bearing young of its own.

The power of heredity.—The importance for eugenics of our nurture of adolescence is therefore central and unique, grossly and inexcusably ignored by our modern civilisation; and yet, having so said, we must prepare ourselves to

accept what I am beginning reluctantly to believe —that most students of the subject, including Principal Stanley Hall himself, have much underrated the obstinate forces of " nature " or heredity, which will very largely make and mould the new individual as they must, our best constructive efforts notwithstanding. Our duty, above all, is to protect rather than to construct—our power is little more than to ward off the special dangers of this period until, happily, the new young character can protect itself. And even though our share in such a result, if and when it is attained, may have been less constructive and creative than some enthusiastic educators suppose, how well worth the doing nevertheless!

Knowledge of our subject, which is also the object of our effort, is our own great need. Such knowledge, on the scientific plane, is of very recent origin. Those who know that the proper study of mankind is man would certainly put down the discovery and the promised recovery of adolescence as one of the great beginnings made in our young century—the eugenic century, as it will one day be called. This discovery has had no headlines, even in the best papers, but it has had many in the best heads.

Dr. Stanley Hall is the acknowledged pioneer in the scientific study of this long-neglected depart-

ment of biology, anthropology, and psychology —for it is part of all three. The distinguished American observer's two large volumes on "Adolescence" were published, appropriately enough, in 1904, the year which saw the birth of modern eugenics in London. A decade later we can praise and criticise, amplify and modify, Dr. Stanley Hall's work in many ways, and, indeed, that subject now has students everywhere, as it should. Here we are studying souls in the making, and "what know we greater than the soul?"

Adolescence a preparation for parenthood. —In these pages the fundamental truth must be constantly insisted upon that adolescence is preparation for parenthood. That is its natural meaning and function. For the eugenist, adolescence is therefore the central phenomenon of the life of any individual. He can never know too much about it, and he can never exaggerate the importance of its care in national eugenics, whether in order that the young being may be protected for parenthood, as most often, or may be protected from parenthood, and parenthood from him or her, as in the case of the feeble-minded adolescent, the right care of whom in Great Britain began on the first of April in this year, when the Mental Deficiency Act came into operation.

Influence of the internal secretions at puberty. —Recent physiology has taught us that the "germ-plasm," the racial tissue, found in special glands in either sex, undergoes a new development at puberty. It liberates "internal secretions," or hormones, as Professor Starling has taught us to call them, which act upon every part of the body, enlarging the larynx, shooting forth the beard, for instance, in the boy, and producing even more important changes in his sister. Immense new funds of physiological energy and of mental interest are now and thus generated. In the higher races, and, above all, in the highest members of the highest races, this fund of energy is used to make not merely the next generation, but also whatever is fine and worthy in the life of the present. All possibilities are open, from that of a cataract in flood, working destruction, uncontrollable save from without by rigid force, and even then liable to break its bounds and work havoc, to that of a stream which flows, by many gentle channels, each a centre of growth and beauty and power, until at the end of the years the river of life returns to the great deep, with a noble record and a fertile delta behind it. In the highest types of life we may see such a record, even though in many cases the *whole* of the vital energies have been transmuted,

from adolescence onwards, and none have been employed for physical parenthood. A spiritual parenthood, which even the eugenist must never dare to undervalue, may be the beneficent result, as was illustrated supremely, perhaps, in the life of Miss Florence Nightingale.

Adolescence and degeneration.—Too often adolescence is a tragedy, even when we care for it as well as we can. It often definitely means degeneration—as a rule, much more marked in man than in woman. The child, whom woman more resembles, is nearer the ideal at which our race is apparently aiming. Our best twentieth-century science, without any religious or historical bias, reports that by some means men must continue to become more like little children, for of such is the kingdom of the future—the future kingdom of heaven and earth. The ideal man whom eugenics desires is a glorified child. Readers of Francis Thompson's essay on Shelley well remember how that great poet taught that truth, and in many aspects of daily converse and company he used to exemplify it himself to me.

Too many men lose what Thompson, for instance, kept. This is true among the highest races yet existing, and is almost constantly seen among men of lower races. They are lower in the scale of life than they were as children. There

is no question as to their physical degeneracy. The hair on the boy's chin, of which he is so proud, is palpably a reversion. The air-spaces above his eyes and the lowered compass of his voice are others. Woman shows far less of this physical degeneracy, and hence, and not because she is inferior or "imperfectly developed man," woman is nearer the child in physical type.

Similarly the *psyche* may go up or down. Observers of Kaffir boys tell us how frequently their *psyche* degenerates at adolescence, and they become little more than male animals. Not only among Kaffirs may this be seen. And we who seek to care for adolescence and, through it, for the future, must try to favour the upward forces if we can. Everything matters now—people, books, games, example, habits of mind and of body. We adults, who at this hour rule the world, and determine its destiny, are frightfully careless of our duty in this respect. Not so were or are the Jews, the unique race who have survived all their oppressors for thousands of years, and who lead the world in many ways to-day. But we are content, for instance, to teach all children to read—which we call national education; and then we let them read what they will at adolescence. It is seemingly all one to us whether they read the noble writers, that "of

the past are all that cannot pass away," or whether they turn to others who write for youth nowadays, the strangulators of young life, who seek to confine within the one gorge of sex all those vital forces for which the seeds of the wide plain are waiting, too often in vain.

This is what the tutor of adolescence should know. The tutor is literally the saviour, he who makes and keeps safe—a very just conception, from our modern standpoint. He (or she, of course) is to protect the child from himself or herself, by directing the new forces into channels which are safe and fertile. He must teach the child to know what is worth while and what is not. That is the only real wisdom, which is "the principal thing." Wisdom is to know trash for trash and treasure for treasure, to scorn the one and seek the other. That is the business of the educator or the tutor—to promote the great choice and make impossible what Dante called "the great refusal."

The reader must turn to the pages of Stanley Hall for the historical evidence as to the importance attached to adolescence by the great races of the past in their great periods. Here only a few words may be added. Adolescence is, above all, the time to learn the difficult but priceless habits of application and discipline, and to

decide, once and for all, that of the two classes of people, those who "stick to it" and those who do not, the youth shall belong to class Number one. Now, also, the habit of learning may itself be learnt, perhaps—it is not for all, be they tutored never so wisely—with all that it means for the indefinite, nay, the infinite, continuance of growth and development, and as a life-long preventive against the risk of degeneration.

Adolescence and self-control.—There are finer and more valuable habits still. Now is the time when concerted games begin to appeal to the fortunate youth. He has the great chance of learning to play not for himself, but for his side—the habit which makes the champions of mankind what they are. They play for their side, and their side is Man. This means discipline and control. But is this youth, or this maiden, to be controlled hereafter from within or from without? Control there must be, of course, in any kind of society, but the question is, what kind of control? In London there is a great community of various animals in Regent's Park, peaceful and stable. The carnivors do not kill the herbivors, the lion and the lamb lie down together. But there are bars between them; the control is from without. If we are to be a society of human beings, in which all types, not

actually anti-social, may flourish, and to which all may contribute their peculiar quality and capacity, a society which is not only stable in the present but dynamic towards the future, its control must not be that of the menagerie, but that of man and man at his best alone, control from within.

Above all, then, adolescence is the period when youth must learn self-control; and where are the teachers whose influence is powerful enough to withstand that other party, with their vile lies about sowing wild oats, and their championship of alcohol, the immediate enemy of self-control at all ages? Never were such eugenic arguments as those here advanced more necessary than to-day, when the whole ethic of control and responsibility and keeping your promises and bargains and not being hustled along by the crowd, seems to be imperilled by modern forces and tendencies. Here, then, the eugenist reiterates his long-held conviction that the nation must discover and recover its adolescence if progress is to be obtained, or if even the fruits of the past are to be maintained.

Preparation for parenthood.—And when we have recovered our adolescence, we must realise the highest of our duties towards it. If the eugenist consults educators to learn what it is

that they aim at, he finds complete disagreement among them in every particular except that with which he is most concerned. A dominant school of educators, whose influence tells upon our education alike of the young peer and the young ploughboy, tries to turn all boys into classical scholars. Another cares mainly for athletic success. The most expensive education of girls aims partly at the higher mathematics and partly at the higher hockey. More recent theories aim at commercial success or technical efficiency. But, amid this welter of conflicting aims, all educators, with the rarest individual exceptions, despised by the rest, agree in excluding the function of parenthood from their idea of "complete living." They will prepare the boy and the girl for anything but that; but that, and whatever leads up to it, they will ignore, not by oversight, still less by insight, but by the fatal lack of sight which afflicts those who "won't see." But I need not further amplify the great pages of Herbert Spencer on this subject.

Against all tendencies which ignore or despise parenthood, or which morbidly modify the development of young girlhood away from the lines which may issue in normal and complete motherhood, the eugenist is bound to set his face. Here we have traced the nurture of a new generation

from before the cradle until the great change called puberty, initiating adolescence and the possibility of parenthood. But, from the eugenic standpoint, this is, in fact, the object of all our care. We want fine individuals, for their own sakes, but we also want them as parents; and we want nothing less than to devote all possible skill and care to the nurture of young individuals, only to discover that they renounce parenthood, and leave that supreme function to be discharged by others upon whose development less labour has been expended.

In short, eugenists are bound to demand the formal, whole-hearted, and practical recognition of the place of parenthood in the ideal of "complete living," and to regard this, and this alone, as the real business of the "finishing school" for youth of either sex. Not all children will become parents. But all, whether personally or in their business as citizens of the State, will at least become foster-parents, and will be none the worse, but all the better, for having had the parental outlook, the parental idea, instilled into their minds in early adolescence. And, further, as will be clear when the theory of eugenic education, or education for parenthood, is fully understood, one of its most valuable results may be to prevent parenthood on the part of those who

may learn that this abstention is a duty they owe to the future because of the likelihood of passing on some taint, which may or may not be apparent in themselves personally—they being "impure dominants," in the Mendelian terminology, and having the morbid "recessive" character concealed within them.

Instruction in motherhood.—The importance of instruction in the details of motherhood is now coming to be generally recognised. I have worked for more than a dozen years to further such instruction, which has assuredly an important share in the reduction of infant mortality, but that is *not* what I mean by eugenic education. Instruction is not education, though it is a necessary instrument of most education. If a girl has been persuaded into marrying a young drunkard in the fine but fruitless hope of saving him, it may well be, in many cases, that it were better for her and for the race that her child should die than that it should live. Education for parenthood is concerned not merely with the care of the child, but with the choice of the child's father,* and, so far as girls are concerned, it will surely direct them in their choice of the fathers of the future, so that they may select the worth,

* In a previous volume I have argued that this is indeed the primary racial function of Woman, who is Nature's supreme organ and trustee of the future.

and reject the unworth, that are proposed for half of the composition of mankind to come.

Instruction in sex-hygiene.—Recently, hosts of writers have joined in urging the need for training the young in sex-hygiene, and that, of course, is part, a preliminary part, of eugenic education as here understood. Four sets of persons are jointly responsible for the present state of affairs, and only the sincere and generous co-operation of all four, which I have been pleading for by voice and pen these many years, can do what we desire. The parents, the teachers, the clergy, and the doctors are all involved. None of these can perform the task alone, and each of the four has special opportunities which are not open to the others. The first requirement, I repeat yet again, is for a series of conferences and discussions, to which well chosen and qualified representatives of all four classes should contribute, that we may learn what is practicable, and what should be the special duty of each. Here, very briefly, I only outline the relations of these four classes as they appear to me before the enlightenment which such conferences as I ask for would afford to all of us.

The foundations must always be laid by the parent, first in answering the questions of children honestly ; and, second, in suitably warning chil-

dren as to the phenomena of puberty. Parents who are possessed of the eugenic idea will do more—more on their own account, besides their co-operation with others. They will maintain a home atmosphere in which the idea of parenthood is honoured, and in which marriage is thought and spoken of as involving duties to the future as well as to the present. Exceptional parents may, of course, do far more. The eugenic literature exists which may aid them in their task.

Thus, in my judgment, many parents and others are handicapped in this matter by the mere lack of a suitable vocabulary. We may find it hard to talk about reproduction; but what is the need when the word "parenthood" is available? Similarly, the sacred character of expectant motherhood may be named, to adolescents of both sexes, when we might shrink from talking of pregnancy. And, lastly, I strongly urge the substitution of the term "racial instinct" for what is usually called the "sexual instinct." To call it the racial instinct is to suggest that it exists not for self but for the race, and is to be regarded as a sacred trust for that end. This is better and truer teaching than that which calls this instinct animal and evil, to be despised and, if possible, destroyed; and the term suggested not only makes the thing more easily nameable,

but lays the emphasis on precisely that aspect of it—*its purpose*—which is utterly forgotten by the instructors from whom youth too often learns at present. If the foundations are laid by the parent, the teacher's task is not an impossible one. Probably the teacher's chief duty, under ideal conditions, is to link on the teaching of such subjects as botany and hygiene to the eugenic idea. Botany teaches, quite impersonally, the most important truths regarding the nature of reproduction and the meaning of heredity. The teacher who is concerned with this delightful subject need make no special effort to point the moral; youth will be quite able to do that for itself. But there can be no question as to the utility of botany for giving a sound appreciation especially of the meaning of heredity and the universality of its application. Similarly, as regards the teaching of hygiene and elementary physiology, the wise teacher, having the eugenic idea, and the probable destiny of the pupil in his or her head, will contrive subtly to instil the idea of personal and physical responsibility, through parenthood, not only for one's self, but also for the future. Such teaching will be not only scientific, but also moral; and its refrain will be, "Ye are the temple of the Holy Ghost." In more literal and modern language,

the adolescent is the temple, the bearer, the host, the trustee of the life of this world to come; his or her interests and powers exist not only for self but for the future, and must be looked upon as a sacred charge. So far, perhaps, upon prepared soil, may the wise teacher go.

In the future, when we no longer call in the doctor to cure us when we are ill, but employ him, personally and nationally, to keep us well, and guide us with his special knowledge in the principles of right living, the trusted doctor of the family will play his part in the great business of eugenic education. The boy who is anxious about himself, with the cruel assistance of the advertisers already referred to, will be able to learn, from a qualified and trustworthy source, that he is anxious without cause, and that if he has cause, the only safe, proper, and competent person to consult is his doctor.

Lastly, there is the clergyman or minister. Most certainly this is his business, and, indeed, the forces of religion have always taken a special interest in sexual morals in all times and places. It has already been hinted that much religious teaching on this subject has been of the wrong kind, but there are many signs to show that a new era is dawning, and that, in the near future, the Churches will take their part in the great

work of education for parenthood, which so evidently concerns them.

Social ideals in eugenic education.—Lastly, let us remind ourselves how large a part the social atmosphere must play in eugenic education. Education is not only a matter of formal doctrine. We absorb by imitation and sympathy and suggestion, and young people are highly susceptible to these influences. We require, then, to set up certain standards as those in which we really believe, and then our young people will believe in them also. To preach eugenics to young people while we practise the worship of money is to deceive ourselves, but not to deceive them. They are not so easily taken in. Every ostentatious wedding, every luxurious, wasteful, pathological honeymoon, every newspaper paragraph which chronicles such things, is a lesson to young people that life and love and the future are words and money the only reality.

In the eugenic education of the girl, surely the best method must be to place before her the ideal of complete womanhood, which must necessarily include motherhood.* And if this mother-

* Does the reader condescend, in this advanced and brilliant century, so gay and bright that often we cannot see anything clearly at all, to read such things as Ruskin's "Queens' Gardens," or Wordsworth's divine lines to the girl who preferred country walks to school books?

hood is to be worth while, and is to repay the mother, she must rightly have chosen the child's father. Let no reader suppose that such considerations are unnatural or impossible. For some years past I have regularly received, from all parts of the world, an ever-increasing flow of inquiries from correspondents * of both sexes who have fallen in love—the first and indispensable requisite of true eugenics, as Ellen Key has taught us all—but who wish to be reassured or directed from the eugenic point of view. Such young people have, somehow or other, been indeed educated for parenthood, and the increase of the sense of eugenic responsibility, as thus indicated, is one of the most hopeful signs of the times.

Patriotism and fatherhood.—Fatherhood cannot and does not mean to the average young man what motherhood should mean to the average young woman. But the young man commonly responds to the idea of patriotism. This, too, has its false prophets, by whose services it is much discredited in the eyes of many. Yet

* In general, one needs much more information than correspondents offer, and knowledge of a more personal kind, before any definite answer can be returned. The inquirer's doctor is the proper person to consult. It may be permitted to add also that when the time and labour of anyone is being requested and he freely does his best for his correspondent, he should at least not be expected to provide the cost of postage as well.

there is a true and an instructed patriotism, which stands for the fatherland because the fatherland stands for noble traditions and noble ideals; a patriotism which knows that there is no wealth but life, and that there is but one mortal disease of nations, which is *decay of parenthood.*

It may yet be that the value of fatherhood for the fatherland, and the constant inter-dependence of patriotism and parenthood, may be effectually taught to the young men of the next generation, and that when the various alcoholic and other forms of imperialism, which no empire can long survive, have gone to their own place, they may be replaced by a eugenic patriotism, practised as well as preached, and issuing in a consecration of a nation's youth to its service in all high and noble ways, of which the first and highest is the renewal of its youth by means of responsible and devoted fatherhood. Then will be fulfilled the words of the first prophet of eugenics in our day, when he said * that eugenics must become part of the "religion of the future."

* In a paper read before the Sociological Society in 1905.

CHAPTER VIII

THE HOMING PROBLEM

In the preceding chapters we have traced the demands of Nurtural Eugenics from the real beginning of the individual life up to puberty, the possibility of parenthood, and the time of preparation for the ideal of *eugenic marriage*, by which, if the individual be worthy, the race is to be continued. For our inquiry, so far, we have adequate knowledge—at least as regards many essentials. And yet, for lack of one final principle, our knowledge and our nurture of the individual, however wisely directed, may be frustrated of their remoter ends. To that final principle this last chapter of our first Part must be devoted.

Parents of any kind, and children of any kind, require a roof over their heads. We have followed the young generation up to the point at which it marries. We must now conclude by studying the environment or nurtural conditions provided to-day for the family, at least in England. The American reader may follow these pages with a

dispassionate interest, but perhaps, even in his own roomy country, there may be cities which illustrate the very conditions here to be discussed.

Landlords and children. — Everyone agrees that people must have houses to live in. The eugenist alone adds what the politicians forget —that these buildings must be available for children if people are to become parents. And there's the rub. From the landlord's point of view children are not to be desired. The landlord may be the squire, or the municipal council, or some definitely philanthropic agency, as in the case of the Guinness Trust in London ; but, in any case, children are looked upon and frequently described as encumbrances.

The housing problem.—In every part, alike of the country and of the town, marriage is systematically discouraged, and parenthood still more so. While we deplore the falling birth-rate, we often decline to provide house-room for children. The so-called housing problem, now so much discussed by politicians, should really be described and thought of as a *homing* problem. From the national and eugenic point of view there is not only the problem of replacing unsuitable by suitable dwellings, but also that of providing a sufficiency of any dwellings at all for married

men with families. In England a better supply of these would undoubtedly raise the marriage-rate and the birth-rate forthwith—*not least* among the most responsible and provident.

Champions of slums.—In such a brief survey as the present, the facts of housing in Great Britain cannot and need not be discussed. It is necessary, however, to deal with the theory, of obscure origin but much popularity among a certain type of counterfeit eugenists, that the slums are defensible on the ground that in the course of time there is bred in them a slum race which withstands and even thrives in such conditions. This is a false and, in many mouths that make it, a wicked statement. Any theorist may sit in his comfortable armchair, with no risk of infection and no intention of running any, and may argue that "natural selection" in the slum would weed out those who were less fit for the conditions, and so gradually produce a race that could thrive there. The answer to the argument in favour of doing nothing is furnished by the death- and disease-rates of the slum population. So far from thriving in these conditions, they die in them; from infancy to such ages as they reach they suffer. The Jews are the astonishing exception. But, so far as our native population is concerned, forces

come into play which not merely make impossible the evolution of an immune race, but directly cause degeneration. These forces are the chief racial poisons—above all, alcohol and venereal disease. The slums directly conduce to alcoholism and sexual immorality, and thus to racial poisoning and destruction.* This is the well known and universally admitted fact, and with its recognition we recognise also that the pseudo-Darwinian theory of the immune race is disproved, except in the single instance of the Jews, who prove my general contention, for they have always protected their race from alcoholism and venereal disease. If confinement to the Ghetto, for centuries past, with no recruits from the country, had meant alcoholism and venereal disease for the Jews, they could not have survived it.

Yet other arguments for the slums have been adduced as eugenic. One is that real worth will always show itself, even in poverty. But we do not know how much potential greatness the poverty may have destroyed; and we must not confuse poverty with the conditions of the slum. Many great men have come from poor homes,

* According to the notorious facts, and the evidence of successive witnesses before the Royal Commission, the counterfeit eugenics which defends alcohol thereby aids and abets syphilis, with its foully dysgenic consequences.

but here I repeat my challenge for a list of great men other than Jews who have come from, not poverty as such, but slums. The first name on this list has not yet been supplied me.

But the pro-slum party have a second argument, based upon the lamentable behaviour of slum people when they are transplanted. There is no doubt that the results are most disappointing—for those who suppose that any average person can live in a slum and not degenerate. Experience shows that when a slum area has been condemned, and the inhabitants have been removed to decent dwellings, many put coals in the bath, break the banisters for firewood, and disturb the neighbourhood with their drunkenness. Hence it is argued that they are inherently, genetically, worthless people!

The inference is an inexcusable fallacy, which palpably assumes what must be proved—that the previous slum life is not responsible for these people's behaviour. In one way the facts can be tested—by transplanting not the parents, but their children. The results are as gratifying in this case as they are depressing in the former case. We now have real experience on this point, and those who speak of eugenics and ignore it should be ashamed of themselves for the sin they are committing against the inno-

cent, the helpless, the unborn. The housing authority in Glasgow has transplanted many slum children. The Salvation Army and Dr. Barnardo's Homes have transplanted many more. Mr. C. B. Fry has several on his training ship, the *Mercury*. Sir Robert Baden-Powell testifies in a similar sense, from the experience of the Boy Scouts. These, and others like them, are authorities to trust—not those who have never been in a slum, nor stirred a finger for the human life that is being allowed to rot there. They agree in the verdict that, apart from the racial poisons, the child from the slums does not grow up like its (artificially deteriorated) parents if it has been taken away early enough. The crucial experiment, made on a large scale and in a variety of different ways, is adverse to the view of the pro-slum party.

Effects of slum life.—The vital statistics—if, indeed, they should not be called mortal statistics—are conclusive, as we have seen, against the theory of adaptation. Slums are the breeding-places of physical diseases, from the vilest racial poisons, and consumption, downwards; and these spread here and there through all ranks of society—the toll we pay for allowing such places to exist. They are the breeding-places of moral disease, from the characteristic listless-

ness, which is probably as much physical as moral, to forms of vice which cannot even be named here. They are the breeding-places of mental disease, such as alcoholic insanity and general paralysis of the insane, which is now proved to be a form of syphilis. Slums are not needed for the extermination of the defective members of the race. Even if that argument were regarded as morally admissible, in point of fact we do not send our feeble-minded, insane and grossly diseased population to the slums, but make them there, find them there, and then remove them to fine asylums, hospitals, and country colonies. The slums provide the conditions which actually originate degeneracy, and though they are well provided with lethal chambers —they have none other—these are often not effective, in their hideous way, until the poisoned life has already been passed on to a new generation. The slums must go, and will go. Within this eugenic century, as I venture to anticipate the verdict of history in naming it, the slums and their defenders will be blotted out from the living memory of man. Above all, slums destroy the child. But the child is *the growing-point of progress*, and whatever policy permits it to rot is the devil's masterpiece.

Houses from the woman's point of view

—The housing we provide in place of the slums must be at least compatible with parenthood; it must be designed, not for the individual as a unit, but for the family as a unit. The problem has to be solved in terms not of single life, but of family life and parenthood. Architects and builders are men who look at housing from a man's point of view; but the problem before us is to build not merely houses, but the material outworks of homes, of which woman was the original inventor. Nor is there any chance of supplying our land with houses that woman can best turn into homes, which is what the eugenist demands, until women, who know what grates and cupboards and taps and stairs stand for, are consulted in this matter. If anything has a woman's point of view, it is this housing question, which is the material level of the higher question of home-making.

Type of house on a royal estate in South London.—The unfortunate fact is that the needs of parenthood are almost constantly ignored. In a recent lecture on "Patriotism and Parenthood," given at Sunderland House, thanks to the Duchess of Marlborough, who is a member of the National Birth-rate Commission, I made some comments upon the type of accommodation which is now being provided upon the

Royal estate in South London, and I wish now to amplify and modify the statements there made. Soon thereafter I made a tour of inspection in South London. I began by visiting the buildings, admirable in all respects but one, which were put up in South London by the Guinness Trust some years ago. A family of normal size—say of five or six children—could not be accommodated there. I then visited the areas of Duchy of Cornwall property from which insanitary and "slummy" cottages have lately been removed, and upon which an immense sum of money is being spent by desire of His Majesty the King, in order that the housing may conform to the best modern standards. The new buildings, of their various types, are sanitary, well-found in all hygienic essentials; they are well spaced out, they are pretty externally, and many open spaces, which will some day be beautiful, are being made.

An excellent and well-illustrated account of "The King's Housing Scheme in South London" appeared in the *Times* of January 30th, 1914, but it contained no reference to accommodation for children. The eugenist, however, can never forget His Majesty's own splendid words to the Convocation of York after his coronation: "The foundations of national glory are laid in the homes

of the people." Those words furnish the criterion for every housing scheme in our cities, and villages too, for the coming time. And my hope is that the King's housing scheme will furnish a model to other landlords not only in the respects discussed by the *Times*, but also in respect of the principle which he has himself implicitly laid down. The conditions upon the Duchy estate are exactly such as will attract the best kind of working people, the most responsible and best-conducted—those whose children we most desire and need, because such parents will provide the best nurture for their children, all problems of genetics apart. Therefore it is here that we shall hope to find the housing question asked and answered as the homing question.

Writing immediately after hearing the evidence which Mr. Walter Peacock, the secretary of the Duchy, was permitted to lay before the National Birth-rate Commission on March 18th, 1914, I can only say that the prospects are most hopeful, and will contrast very favourably with the policy of the London County Council, which has hitherto ignored the special demands of parenthood. The more rigid economic considerations are here being regarded as secondary, and it is they that hamper us so frightfully. In Paris, as has been already publicly announced, a tremendous scheme is

afoot, involving the expenditure of many millions of pounds sterling, whereby the old fortifications will be removed, a new ring of boulevards constructed, and large provision be made *for workmen with large families*. It may be suggested that it is a sign of real progress to replace fortifications of earth with houses where the real fortifications of any city may be born and live.*

Upon the Royal estate in South London there are being erected no block dwellings, such as there are upon the Peabody and Guinness Trust estates. If the Parisians are wise, they will follow our King's example, rather than erect anything like the German block dwellings in which, perhaps, many children are born, but where the infantile and child mortality is so high, and the survivors are so evidently victims of light-starvation.

It is a delight to be informed that a portion of the Royal estate has been specially ear-marked for dwellings for couples with growing families, in which extra rooms can be added and let at low rents as the family increases. It will not be possible to let these dwellings at very remunerative rents, but the policy has been to regard the estate as a whole, and to be well content that part of it should yield rather more children and

* Readers of that mighty eugenist, Walt Whitman, will remember his answer to the question, Where does the great city stand ?

rather less dividends. Let us quickly hear the names of other landlords who will loyally follow the King's example. Cannot, indeed, the Peabody and Guinness Trusts* be persuaded to alter their policy in the light not only of the falling birth-rate but of the physiological study of children nurtured under varying sets of conditions, and henceforth to provide low-rented cottages for families instead of building block dwellings? These Trusts were formed when little was being done for housing the working classes, and they built block dwellings in which the tenements, let at low rents, were a vast improvement on the old insanitary dwellings. During the last few years, with the extension of tramways and the expansion of London, a great deal has been done in the way of building for the working classes. But the London County Council, the Ecclesiastical Commissioners, and others find that it is impossible to build cottages with three bedrooms which can be let at ten shillings a week to cover rates, taxes, and repairs. Here it is that the Trusts might do much good by building cottages which could be let at something under the economic rent. The problem of the lodger would, of course, need to

* From the evidence given by the Manager of the Guinness Trust before the National Birth-rate Commission on March 18th, 1914, after this chapter was written, I learn that this Trust will now begin to provide somewhat for parenthood.

be dealt with, as by the London County Council, according to the evidence submitted by its Housing Manager to the National Birth-rate Commission. Later, perhaps, they may follow the brilliant idea of Mr. Peacock, now about to be realised on the Royal estate, of building "elastic cottages," in pairs, with the bedrooms of each next those of the other, so that a fire-proof partition can be moved, allocating more and fewer bedrooms to the tenants as one family enlarges and the other decreases.

In another notable respect the scheme prepared by Professor Adshead, and accepted by the King, seems worthy of all praise. The Duchy is making provision for different classes upon the same areas. This not only has the advantages referred to by Sir James Crichton-Browne in his recent address to the Sanitary Inspectors' Association, but it also makes it more possible for landowners to build and let a certain number of cottages at comparatively unremunerative rents, upon the principle which is generally accepted by landowners in the country. I hope that readers not in London only, but beyond the seas, remembering Lord Rosebery's dictum, "It is at the heart that Empires rot," may be interested in learning how King George is setting the example which will avert that calamity.

Here, then, our present study of the principles of Nurtural or Secondary Eugenics is completed. We have traced the nurture of the new lives from conception to maturity, and the prospect of parenthood on their part, and have concluded by discussing the provision of houses in which the new families may find homes. And now we proceed to the vastly more difficult, though possibly more interesting and novel, problems of Natural or Primary Eugenics, under the various categories which have already been defined. For when our survey of nurture is completed, and when we have acknowledged—counterfeit eugenics notwithstanding—the immeasurable difference between good and bad nurture of whatever natural material, we are still forced to realise that the complete realisation of all our demands of nurture—say in the case of the feeble-minded child—would not satisfy the eugenist or anyone else. We are therefore forced to inquire into differences of "nature" or heredity, and the possibilities of controlling them. But this inquiry can only be successfully prosecuted on the multiple and complex foundations furnished by many sciences, none of which as yet is more than young, immature, and inadequate. It is the search for knowledge, therefore, that must now engage us.

Part II.—The Search for Knowledge

CHAPTER IX

THE NATIONAL BIRTH-RATE COMMISSION

For now nearly forty years the birth-rate in Great Britain has been falling, and with the fall, for which we are personally responsible, has come a change of opinion, so that we now profess heartily to deplore and disapprove that which we do, though time was when the increase of our population was thought, by all the political economists except Ruskin, to be a national disaster. To-day we nearly all think as he did, publicly deploring the consequences of our private conduct. But whatever its meaning and results, this fall in the birth-rate is surely the largest contemporary phenomenon of our national life, and it wears for us in Great Britain a very different aspect from the parallel fall which is now being bewailed in urban Germany, since we possess, but do not nearly occupy, an immense proportion of the habitable surface of the earth, hungrily and justifiably desired by crowded Germany and Japan.

The Fabian inquiry.—A few students have made serious inquiries, notably Mr. Sidney Webb and a Committee of the Fabian Society, who demonstrated in detail the unquestionable fact that highly reputable and responsible people are now deliberately controlling the birth-rate after the fashion which ecclesiastics and bachelor bishops, above all, so roundly condemn. But for the most part our attention has confined itself to diatribes, each of us doing what suits him best, whilst exhorting his fellows to arrest this fall in our national natality. The time has surely come for a real inquiry into the subject.

Is natural fertility failing?—Thus, to take a single point, as yet wholly undetermined, if so much as formulated, we know that a very large part of the fall in the birth-rate is voluntary and deliberate. We know, also, that the illegitimate rate is falling, and that the age at marriage is rising in both sexes. But when these causes are admitted, we do not at all know whether there may not be *also* at work deeper physiological causes. We know that the natural fertility of many species declines when the conditions of their lives are changed—when we confine them in zoological gardens, or in fur farms, for instance. The expatriation of the Tasmanians, to cite our own species, seemed to arrest their

fertility and caused their extinction. We do not know whether any of the conditions of modern urban life are playing a part in this respect among ourselves. But figures from the large cities of Germany and others suggest that the power of nursing their children is being lost by modern mothers. The highest mammal of all is ceasing to be a mammal. And it may well be, in the light of all we know as to the correlation between and interdependence of the various parts of the reproductive system, that this failure of the power of lactation heralds, or is a milder form of, a general functional failure of reproductive power.

Further, as I argued at the Royal Institution in 1907, a fall in the birth-rate is a phenomenon associated in progressive organic evolution with a rise in degree of individuality. This is Spencer's famous law of the antagonism, or, as I prefer to call it, the inverse ratio between "individuation and genesis." It remains to be seen, as I have elsewhere argued at length, whether modern woman can eat her cake and have it, develop and spend her powers as an individual, and have enough left within for the needs of the race. At our recent English-speaking Conference on Infant Mortality,* Dr. Caroline Hedger,

* Held in association with the International Congress of Medicine, London, August, 1913.

of Chicago, strongly supported the view here hinted at, in the light of the most recent American statistics as to the reproductive functions among college-educated women. The contentions of Principal Stanley Hall in this respect seem to be fully justified.

The formation of a Commission. — But, thanks to the never-failing initiative of the Rev. James Marchant, F.R.S.E., the Director of the National Council of Public Morals (for the promotion of Race Regeneration), a National Commission on the Birth-Rate has now been formed in London, with Bishop Boyd Carpenter as its president. The mere figure we call the birth-rate is a numerical expression for the fact of parenthood, and if we pursue our inquiry so as to ask not only how many but *who* are being born, we are evidently at the very heart of the problem of national maintenance. When Galton inaugurated modern eugenics in 1904, the National Birth-Rate Commission was the first thing required. The pure science of genetics, so often confounded with eugenics, does not care what happens so long as it understands the laws in any given case. But the applied and ethical art of eugenics must know what is happening, who are having children, and why, who are not having children, and why not,

before it can prescribe the course towards the goal it envisages. While genetics and other branches of biology were discovering the laws of heredity and cognate subjects, eugenics should have set itself to discover the essential facts of parenthood among us; whence, in due course, to determine the best application to us all, as persons with wills and desires and habits and limitations, of the laws discovered by pure science. This is obvious and unquestionable, but though I have worked for eugenics since I heard Galton in 1904, I never saw, until it had been met by Mr. Marchant now a year ago, what the primary need was.

Except for Mr. Webb's inquiry and a little more, we need to begin almost at the beginning. Even though the results of the 1911 census will be available, thanks to the official help which we are receiving, that census was the first in Great Britain which included any attention to the matters that most vitally concern us, so that no one can do more than guess what would be patent if similar questions had been asked in each decade since the birth-rate began to fall.

The prematurity of moral judgments. — A birth-rate, in such a complex being as a modern civilised society, is a symptom, an end-product, of hosts of interwoven and often contrary causes.

It is obvious that the birth-rate might fall because gonorrhœa, which is a great cause of sterility, spread; or that it might fall because husbands became more solicitous of their wives' health, and did not allow them to have children oftener than once in three years. The same *numerical* result thus flows from two causes—one mortal, venomous, vile, the other vital, valuable, beautiful. This, the first illustration that occurs, might be indefinitely multiplied in order to show the complexity of the problem. Any Commission which sat upon it, having already made up its mind, would surely fail, foolishly and flagrantly. Judging by the anxious inquiries of editors and private correspondents, when the formation of the Commission was first announced, many seem to assume that a Commission which sits upon a declining birth-rate must have made up its mind already, and is in danger of ignoring various considerations which could easily be overlooked by the academic or cloistered moralist. This fear is unwarranted. Our express object is to obtain and co-ordinate knowledge. Our *primary* aim is thus definitely not moral. Morals are concerned with what should be, science with what is. The Commission may have ulterior moral and eugenic objects, and may be actuated by moral feeling, but it exists because the truth has been

perceived that, whether or not what ought to be can be attained without reference to what is, at any rate no efficient means of establishing what ought to be can be devised unless we first know what is—" where we are," and hence what course to follow to the goal. The Commission simply exists to learn, and, once that process begins, he may be learning best who least knows where he will end. It may be confidently said that the Commission as a whole has not made up its mind, and that no member of it knows what its report or reports will be.

The personnel of the Commission. — The absolute essential was that an extremely heterogeneous body of persons should be assembled and persuaded to work harmoniously together. This miracle Mr. Marchant has performed. Any witness may be successively interrogated by a bishop or a monsignor, a duchess, a rabbi, an editor, a gynæcologist, a dean, a physiologist, or an economist—to choose a few instances at random. The work has been well thought out and subdivided. One committee is dealing with the more specially eugenic aspects of the question, under the convenership of the Dean of St. Paul's. A committee of women will report on the woman's aspect of the question, and will present the results of an inquiry among five thousand Univer-

sity women in Great Britain, made on a scale and in detail, never before attempted. The convener of this committee is the leading medical woman in this country, Mrs. Mary Scharlieb, M.D., and it includes the Duchess of Marlborough, Lady Willoughby de Broke, and Lady Aberconway. Mr. J. A. Hobson is convener of the committee which will deal specially with the economic side of the problem. In fact, no one can look at the personnel of this Commission and say that it has been "packed." *

The various churches, medicine, women, political economy, politics, are all adequately represented. Witnesses of all schools are being

* The following is the Commission (the *Times*, October 31, 1913):—Chairman, the Right Rev. Bishop Boyd Carpenter; the Bishop of Birmingham, the Duchess of Marlborough, Lord Willoughby de Broke, Lady Willoughby de Broke, Lady Aberconway, the Bishop of Barking, the Dean of Westminster, the Dean of St. Paul's, Sir John Gorst, Sir Thomas Whittaker, M.P., Sir A. Pearce Gould, Sir J. Macdonell, Sir J. Crichton-Browne, Surgeon-General G. J. H. Evatt, the Venerable Dr. W. Sinclair, Principal A. E. Garvie, Rev. J. Monro Gibson, Rev. R. F. Horton, Dr. A. T. Schofield, Dr. Major Greenwood, Rev. F. B. Meyer, Rev. Thomas Phillips, Professor G. Sims Woodhead, Dr. A. Newsholme, Dr. T. H. C. Stevenson, Dr. J. W. Ballantyne, Dr. C. W. Saleeby, Dr. Agnes Savill, Dr. Ettie Sayer, Dr. Mary Scharlieb, Dr. Florence Willey, Rabbi Professor H. Gollancz, Professor L. T. Hobhouse, Mrs. General Booth, Mr. A. G. Gardiner, Mr. Walter Heape, Mr. J. A. Hobson, Mrs. George Morgan, Mr. R. Donald, and Rev. James Marchant, secretary. Dr. T. H. C. Stevenson, the Superintendent of Statistics for the Registrar-General, and Dr. A. Newsholme, Medical Officer to the Local Government Board, have joined the Commission with the consent of the President of the Board and the Registrar-General, and whilst holding themselves free not to sign any public report, will bring the available statistical data to help the inquiry.

examined, representing such extremes as the Roman Catholic and Jewish point of view in one direction, and that of the Malthusian League in the other. Sir Francis Champneys, Principal David Starr Jordan of California, Dr. Drysdale, Dr. Ballantyne, and Alderman Broadbent of Huddersfield, are among those who have already, when I write, submitted evidence.

A possible report in 1915.—It is hoped that, before the end of 1915, we shall be able to offer to the public a report which will be sufficiently comprehensive, authoritative and practical to make the subsequent appointment of a Royal Commission unnecessary. This report can scarcely fail to be of value when read in conjunction with that of the Royal Commission on Venereal Diseases, which should appear about the same time. Meanwhile, he who reports upon the progress of eugenics must wait for the knowledge which will be forthcoming as to the actual and essential facts of parenthood among us.

If a prediction may be permitted, it is that we shall not find the causes and consequences of the falling birth-rate to be either wholly evil or wholly good. As for practical recommendations, it needs no prophetic power to guess that this Commission will demand what the French Commission, now sitting on the same subject, is certain to demand :

that we should take better care of the birth-rate we have. Not on this Commission shall we ignore, like most of our celibate castigators and other truculent moralists, the death-rate, or rather our national infanticide, of the babies that *are* born. The evidence of the physiologists and of the pathology of nurture will also assuredly suggest that our attention to nurture must be directed earlier than ever before. We must protect fatherhood and motherhood not merely from the gross racial poisons but from much subtler forms of malnutrition. We must care for the next generation long before the date at which we recognise and count it as the "birth-rate," and this means an almost undreamt-of extension of the principle of care for expectant motherhood. In this connection the Commission will certainly demand the registration of still-births, which we have conveniently ignored in our vital statistics hitherto. When all babies are born viable, and when none are then killed, we shall have what I call an *effective birth-rate.* To make the present birth-rate an effective birth-rate in this sense would be of little satisfaction, perhaps, to the clerical moralists of one school, but in the eyes of all who know and care what motherhood costs women it would be immeasurably preferable to a raising of the birth-rate.

CHAPTER X

THE FOUNDATIONS OF EUGENICS*

THE term eugenics may be, and is, used in two ways which are distinct and must be distinguished. We may think of eugenics as a science or as a practice. We may make calculations or experiments on heredity in a laboratory, or we may study and compare marriage customs in various communities, and may call such work eugenics. Or we may frame and enact legislation, or methods of education, based upon our researches, and may call this kind of work eugenics.

Sir Francis Galton used his own word in both senses, but ever inclining towards that which means by eugenics a practice, like medicine. This is the exact parallel. There is such a thing as scientific medicine, but there is no science of medicine. Medicine is a practice which is, or should be, based upon what we may conveniently call the "medical sciences," which are in their

* This chapter is based upon the third of the author's series of annual eugenic lectures to the Sociological Society, which began in 1909.

turn based upon physics and chemistry and general biology.

The analogy between eugenics and medicine.—Now eugenics is racial medicine—though it is also much more—which endeavours to cure and prevent the diseases of the race, bodily and mental, as ordinary medicine seeks to cure and prevent the diseases of the individual. It is a practice or it is nothing. There is no science of eugenics, but there are the eugenic sciences, as we may call them, and upon these scientific foundations the eugenist stands. If the superstructure is to be tall and strong and fine, the foundations must be wide and firm and deep. We have only to consider the appalling, loathsome, often indescribable history of medical practice before its foundations existed, in order to realise how absolutely and wholly, at every point and in every detail, our eugenic practice, like any other, must depend upon knowledge.

Eugenics has the creed, the religious temper and ideals, which will use that knowledge, all we have or shall ever have, for the purposes of wise practice. Nothing useful to our purpose is to be ignored, forgotten, or rejected. Already the stone which some of the builders rejected has become the head of the corner. The great modern advance of medicine is due to its founda-

tion upon sciences which no one supposed to have anything to do with it—Pasteur's stereochemistry, microscopy, and bacteriology, for instance. And we quickly learn, when we attempt or imagine eugenic practice, that the foundations of eugenics must be as wide as science itself.

Eugenics depends upon all the sciences.— Forty years ago, in his "Study of Sociology," Herbert Spencer showed how the science of society is based upon all the lower and simpler sciences. Many people argue that there is no science of society, and they are *almost* right, for they mean that sociology builds upon the simpler sciences. The same has been said of biology; yet these sciences do exist, though they need so many foundations to build upon. And the eugenist builds and stands and aspires upon the work of the older sciences, from physics up to sociology. Eugenics, indeed, it is here claimed, is the ultimate and supreme purpose for which and to which the whole structure of science must now be dedicated.

Yet within the last few years people have rushed into eugenics who have no idea of its complexity, and who are as little qualified to advise the public as the quack to treat diphtheria or cancer. No one has yet been known to refrain from talking on eugenics; all sorts

of unprepared persons are writing upon it, legislatures have rushed into it, sometimes with lamentable consequences—and the curious fact is that the greater part of these aberrations and effronteries have proceeded from the United States, which is also the pioneer of the best work in human genetics that has ever yet been done. We are in the position of medical practice before any attempt was made to regularise it, to set up standards, and to require training before people began to treat others.

Here, therefore, let the attempt be made to indicate the scientific foundations of eugenics as I believe them to be needed, ten years after the beginning of our modern propaganda. The public adviser who is ignorant of any or—the more usual case—all of these sciences, should be looked upon as a eugenic quack, and the public and the legislative chambers should henceforth beware of those who show no sign of having attempted to acquire even the elements of the sciences upon which so complex and momentous a thing as eugenic practice, at least in the realm of Primary Eugenics, must be based.

Genetics fundamental.—Genetics, the science of heredity, must take the first place. Clearly the science of breeding must underlie the art or practice of good breeding. But genetics is a

much younger term than eugenics, for it was not until the last year of the nineteenth century that Mendel's work was re-discovered, and Professor Bateson was able to lead the way towards a real science of heredity, based upon the experimental study and observation and analysis of individual cases. In Great Britain our genetic workers, Bateson, Punnett, and Biffen, and their followers, lead the world, so far as Mendelian genetics is concerned. But for genetics we require to cross the Atlantic, where the American Genetic Association and its Eugenics Record Office are doing the essential work, by the first-hand study of human families, *comprising not less than three generations*—an indispensable requirement which has been ignored by the biometrical followers of Galton in Great Britain. American eugenists are well aware that their work has aroused bitter criticism among the workers in the Galton Laboratory—*see* Dr. Davenport's sufficient reply in *Science*, November 28, 1913—but they are also aware of my high appreciation of their work, to which I have been calling the attention of eugenists in Great Britain since it began, and which I believe to have been of the utmost value when it was necessary to adduce arguments for politicians in favour of what is now the Mental Deficiency Act.

Eugenics requires the medical sciences.—The medical sciences are all essential foundations of eugenics, and the worst of all the bad advice which has been given to the English-speaking public during the last five years in the name of eugenics has proceeded from those who have had no training in the medical sciences, and are substantially unaware of their existence. We can do without neither the principles nor the details of these sciences. The mathematician may endeavour to pick up a little knowledge of tuberculosis, for example, years after having informed the world that it is inherited in the same degree as other human characters—though nothing as to the hereditary factor in this infection is yet known ; but medicine cannot be learnt by casual reading. To take an instance or two, toxicology instructs us as to the racial poisons. No eugenist who knew anything of the toxicology of alcohol or lead could be responsible for much that has been written on these subjects. Neurology is no less necessary. We are told by the unqualified that " paralysis " is hereditary, as if paralysis were a disease, and not merely a symptom. As I pointed out at the International Eugenics Congress in London in 1912, when such generalisations were being aired, we need to distinguish. Infantile paralysis is not transmitted to offspring,

being due merely to local damage of certain motor areas in the spinal cord. The Crown Prince of a great European empire has not inherited his august father's paralysis, and I have seen a man all four of whose limbs were paralysed by this disease, and who was a mere wreck of a man, but who had a healthy child, as we should expect, though inexpert eugenists would certainly have desired to prohibit parenthood for him. But general paralysis is due to a form of infection which involves risk to *all* the offspring, instead of none; while the paralysis named after Sir William Gowers, the great English neurologist, is transmitted according to the Mendelian law, some of the offspring being affected and some escaping, whilst being capable of transmitting, in ratios according to the particular mating in question. Obviously, the duty of the eugenist varies in these three cases, and he is but a blind and harmful guide unless he is acquainted with the neurological facts, or is, at least, aware that he is unacquainted with them. A man may be a very good actuary, a very competent experimental breeder, or a lofty idealist and worthy instructor of youth, without the necessary qualifications for such cases as these.

The need of obstetrics. — Of all the medical sciences, perhaps obstetrics is the most essential

for the eugenist, including therein the care and study of the expectant mother. When I was resident physician to the Edinburgh Maternity Hospital in 1901, we inaugurated the first Pre-Maternity Bed for this purpose—a bed which has now grown into a ward, and this splendid conception of Dr. J. W. Ballantyne has already had similar results in Boston, and, I believe, elsewhere in the United States. Mathematicians, however eminent, who know nothing of ante-natal physiology and pathology, will err—do most flagrantly and disastrously err—when they study infants at birth as if only heredity accounted for their characteristics then.

The need of dietetics.—A word must also be added regarding the really new science of dietetics. We are learning that extremely minute variations in diet may produce such immense consequences as beri-beri or rickets. The various manifestations of this latter disease might easily be looked upon as signs of hereditary unfitness. Similarly, such small changes in diet or nurture as the addition of certain glandular products to the daily routine may remove altogether the most marked symptoms of mental deficiency or insanity, each of which, in other forms, only to be distinguished by medical analysis, is markedly hereditary.

Eugenics and the mind.—Psychology is a necessary foundation of eugenics, for we are dealing neither with atoms, machines, nor animals, but with men and women, who wish and will and purpose and feel. If we are to teach them, to influence adolescence, for instance, we must try to understand them. The psychology of sex attraction, upon which depends, in our own species, what Darwin called sexual selection, profoundly concerns us, for we must understand these forces before we can direct them to eugenic account. For lack of such knowledge most eugenists gravely under-rate the eugenic value of natural love, though no one could long continue in such an error who had read the work of Miss Ellen Key, the wisest woman in the world. Special reference should be made here to the small volume on "Social Psychology," by Dr. McDougall, of Oxford, who has therein well and truly laid a necessary part of the eugenic foundation—above all, in teaching us to understand the instincts of sex and of parenthood upon which the possibility of eugenics must always depend.*

The comparative study of man.—Anthropology, especially that part of it which studies and compares the various types and races of

* See also the Author's paper on "The Psychology of Parenthood" in the first number of the *Eugenics Review*.

man, is obviously fundamental to what may be called racial and inter-racial eugenics. We cannot appraise such events as the disproportionate increase of the black compared with the white population of South Africa unless we have consulted anthropology as to the relative place of the two types in the human scale. According as anthropology reports of this race and that must we proceed in our legislation of and for the future. The impossible alternative would be to go by the shouts of the mob, by race prejudice, vested interests, existing custom, or the convenience of politicians, in making those legislative decisions upon which, in such cases as this, the future of the world so evidently depends. In such crises, which will soon appear stupendous even to the dullest eyes, the eugenist and the statesman can surely build upon no foundations but those of anthropology. The substitutes have been tried in every part of the world, and in every past age, when and where these questions of race and race have arisen ; and wherever they have been tried they have been found wanting. Science now claims her place.

The scientific study of class.—Closely allied to the race question is the class question. Amateur eugenists assume that the middle and upper classes are superior in all essentials. Since they

also praise natural selection, which is obviously more stringent among the lower class, that class should be superior to the less stringently selected classes; but this is only one of many fashions in which this doctrine of theirs, a mere collective egoism, may be disposed of. Dr. McDougall, a great and serious searcher after truth, well knowing that we have as yet no right to make these class assertions, has lately suggested that psychological observations should be made upon large numbers of children of the various classes at, say, the age of twelve. These would be worth making, but would still be inconclusive, for the children would have been subjected to very different qualities of nurture, especially as regards diet and sleep; and no modern physiologist could accept the results of intelligence tests at the age of twelve as indicating *natural* differences alone, when such immense sources of fallacy were present.

The supreme science of society.—Sociology, the science of society, including history in the great sense of the word, is evidently indispensable for eugenics. It is becoming possible to interpret the supreme tragedies of history with the eugenic eye. If space were here available, one could travel round the Continent of Europe, showing how history may teach eugenic lessons;

the fall of Athens may have been due to the introduction of a racial poison, such as we believe malaria to be; the fall of Rome may have been due to reversed selection through the demands of war, as Principal Starr Jordan has powerfully argued; the fall of Spain may have been due to reversed selection by the Inquisition and religious celibacy, as Galton himself argued, and by the expulsion of the Jews under Ferdinand and Isabella; the decline of France—most ominous phenomenon of our age—may be due to the expulsion of the Huguenots and to the Napoleonic campaigns; and I would apply similar reasoning to Ireland, from which the cream of her youth of both sexes has emigrated for decades, and argue that the policy which will save Ireland will be whatever policy—it may be Home Rule, or Balfourian coercion; that is not for me to say—persuades the best of her young people to remain within her shores; that policy and that alone.

Apart from such historical considerations, sociology studies and resumes all the other sciences in their social relation, and sees the individual not only as individual but also as citizen. If the eugenist forgets society, and speaks as if he had only to deal with disconnected and independent individuals, if he has no idea, for

instance, of marriage as a social and legal institution, he will certainly make proposals which, though genetically and medically sound, will be nothing but disastrous or ridiculous when applied to the real world of human society. This is an error to which the eugenist is evidently prone.

The need of civics. — With eugenics must ever go hand in hand the department of sociology which we call civics. Eugenics cannot succeed, as Professor Patrick Geddes pointed out long ago, unless we have also a eutopia—a "good place" for the products of our good breeding. To talk eugenics and countenance or ignore slums is only one degree less outrageous than the sham eugenics—the latest *alias* of mammon—which approves the slum as weeding out the unfit. The eugenist urges and proclaims the half-truth, too little recognised, that the people often make the slum; but if he does not also recognise the complementary half-truth that the slum makes the people, it is only because he is somewhat clumsy with his label, and has so glued it over his eyes that he cannot see. Sir James Crichton-Browne, the first President of the Eugenics Education Society, and an observer who was praised and thanked by Charles Darwin, has lately protested against the view of the slums which has become fashionable among amateur

eugenists. In his address as President of the Sanitary Inspectors' Association on February 8th, 1914, he is reported in these very necessary words :—

"Referring to Sir William Ramsay's recent protest against 'coddling' and thus prolonging the lives of the unfit, Sir James Crichton-Browne said that it would emphatically not be better to let some of them die out, though steps might properly be taken to prevent certain kinds of the unfit from beginning to live, and it was to be hoped that the propagation of the mentally defective would be in some small degree restricted. If 'coddling' meant sanitary improvement, then he thought we could not have too much of it. Sanitary improvement did not run counter to natural selection, it did keep weaklings alive, and weaklings often turned out the benefactors of their species, but, on a far larger scale, it kept alive the robust. Slum life was not a weeding out, but a widely destructive process; it favoured the survival of those who could subsist on a relatively small amount of nourishment, and light and air; but it ruthlessly stamped out those who were strong and sensitive, and who demanded a copious supply of nourishment. Intellectual gifts, emotional refinement, and moral sentiment had little chance in slumdom against low cunning, blunted feelings, and vicious propensities."—*Times*, February 9, 1914.

The place of statistics.—The "science of statistics" is not a science but a method, invaluable for the prosecution of many sciences. But the method is no less treacherous than invaluable, and it cannot possibly be applied with success except to data which are adequate,

accurate and relevant. The failure to observe this precaution has led, in Great Britain, to a deplorable state of things. The American eugenists, with their employment of the "field-worker," are setting us an example in the collection of their data. When similar methods are employed in this country, *by persons acquainted with the subject-matter of their inquiries*, the mathematical genius and devotion of Professor Karl Pearson—if he will consent to work under those conditions—will undoubtedly prove as invaluable for the advance of our knowledge as they have hitherto been disastrous. The condemnation of statistical inquiries upon data which no one acquainted with their subject-matter would have condescended to touch does not mean that statistics are not essential, or that their expert treatment by mathematicians is not indispensable.

The philosophy of eugenics.—A word must be added as to the philosophical basis of the eugenist, and here I can only reassert the *credo* of my address on eugenics as a constituent of religion to the Free Church Congress in 1912.

In my first lecture to the Sociological Society, in 1909, I defined eugenics as "the application to mankind of the Darwinian, and natural, principle of selection for parenthood." But biology marches

on. Seven years ago M. Bergson's "Creative Evolution," the greatest book of our century, was published. When we return to the Darwinian theory, with our new genetic knowledge of the manner in which variations arise, and our new perception of the fact that their origin or creation is the crux of evolution, we are disconcerted to discover how little indeed it is that Darwinism really accounted for. Professing to replace the old doctrine of "special creation," which was in any case doomed by the geologists and the palæontologists, Darwinism offered us nothing but destruction. "Natural selection" is not a constructive process at all. It is not positive but negative—it is natural rejection, not natural selection. It does no more than destroy what cannot survive under the conditions. The witnesses to it are never the living but the dead. It creates nothing, but only destroys. As an explanation, a *vera causa*, of the existence of any living form, it is ridiculous; as if we were asked to believe that our oblivion of all the bad dramas of the past *wrote Hamlet*. The positive, creative, constructive factor, the actual cause, remains unnamed; we have only described the conditions which make a clearance for its products. Darwin himself always believed, with his predecessor Lamarck, whom the French justly

regard as the real pioneer of organic evolution, that the willing adaptation of individuals to their conditions of life was reflected in their offspring, so that life became more apt and more secure in its manifestations from generation to generation. Here there is recognition of a positive factor which is not mechanical but psychical. Everyone who still echoes the dead materialism of the nineteenth century will be aghast, no doubt, but we must go forward—in the illustrious company of such leaders as Bergson in Paris, Driesch in Heidelberg, and McDougall in Oxford.

The inadequacy of "Darwinism."—The tree may be judged by its fruits. We try to erect a eugenic system upon "Darwinism"—the kind of Darwinism which Darwin himself rejected. Thus, conceiving natural selection as creative, inventive, instead of merely destructive and punitive, we naïvely assume that the fittest which it permits to survive are the highest and the best, instead of merely the best adapted. So we proclaim a "return to natural selection" as the necessary means of making finer men. But fitness is only fitness as of a key to a lock. Degeneration may achieve it, and thus there is no more excellent and typical product of natural selection than the tapeworm—quite exquisite in its fitness—which I have long prescribed, in a

spirit jar, for the contemplation of those who confound fitness with fineness. Mr. Arthur Balfour trounced such confused thinkers handsomely at the Eugenics Banquet in 1912, and tried them not a little. Later Professor Bateson, in his Herbert Spencer lecture to the University of Oxford, has added further arguments from the sociological point of view. It needs all sorts to make a world, and nothing is more obvious than that natural selection, as appealed to by amateur eugenists in general, and by many who should know better, would make short work of poets and, indeed, all but the purely financial and damnable kinds of genius.

Natural selection only selects in the sense that all rejection involves selection, and that to refuse is also to choose. As such, it applies solely to what I have called negative eugenics, which seeks to limit the number of the defective and diseased. Yet even here "Darwinism" is worth less than nothing to us without qualification. In an early chapter of his "Descent of Man" Darwin pointed out that we cannot apply the principle of natural selection to the abolition of hospitals and of mercy, because we should thus lose priceless things. In his Romanes lecture Huxley stated the dilemma still more cogently, showing that "moral evolution" is opposed to

" cosmic evolution " (conceived in terms of natural selection), and consists in arresting the natural process. Out of this dilemma he saw no way. But it is a dilemma only because we wrongly suppose that " cosmic evolution " depends on a merely destructive principle. When we once firmly grasp the truth that the way to maintain and magnify life is not by destruction, that no amount of killing is creation, we shall see that the valuable part of Darwin's teaching can be reconciled with morality in this case, Huxley's difficulty notwithstanding. *We can distinguish between the right to live and the right to become a parent.* That is the principle I laid down five years ago, and I am glad to see that in a recent lecture Dr. Heron, of the Galton Laboratory, has accepted it. We can do our best for the life that is, but can follow Nature and transcend her by mercifully forbidding it to reproduce its defect. That is why I define negative eugenics as " the discouragement of unworthy *parenthood*," a project which involves no killing, and is morally at the opposite pole from that of the purely " Darwinian " eugenists, who advocate a return to natural selection with its destruction of the unfortunate, and whom I define as the " better-dead " school of eugenists. For that is what so-called " Darwinism " leads to: the champion-

ship of infant mortality, contempt for mercy, enmity to social reform, and the prostitution of divine eugenics to the diabolical creed of "Each man for himself, and the devil take the hindmost."

"Creative evolution."—The true foundation of eugenics must be found somewhere in construction rather than destruction. The choice is between the destructive theory of Darwin and the "creative evolution" of M. Bergson. No doubt this new theory is repugnant to those who, like Professor Schäfer, cannot rid themselves of the strange mechanical theories of the nineteenth century, which thought that to explain the living machine, in terms of physics and chemistry, was to explain away its purpose, and that the mind was an "epiphenomenon," a sort of accidental supplementary efflorescence from the cerebrum, which did nothing, and therefore, in effect, was nothing. We begin to look afresh at the living thing, in terms of behaviour, and we marvel that sane, serious men could have thought as they did. They honestly thought that adaptation, the great fact of life which they sought to explain otherwise than by "special creation," was simply mechanical adjustment. As M. Bergson says, they were "fooled by a metaphor."

M. Bergson sees that the behaviour of living things cannot be explained save in terms of a psychical something, the *élan vital*, which is purposive, wills, intends, tries. On returning to the "Origin of Species" after my first reading of M. Bergson, I was amazed to see how Darwin, too, had found himself compelled to write of the ultimate facts of living things in terms which are psychical, purposive, *not* mechanical, and which cannot be evaded, if the facts are to be described. The very term "struggle for existence" has succeeded because of its palpable truth, which is more than mechanical. Indeed, one cannot watch living things—men, or men's white blood-cells under the microscope, or the malaria parasites which they fight, or a daisy in tall grass, determined to get its head into the light—without seeing everywhere the *élan vital*, the really creative principle, psychical in nature, the entelechy of Aristotle and Driesch.

The creed of divine eugenics. — This creative conception of evolution really provides us with a motive force, constructive, patient, resourceful, using, and often foiled by, matter and its laws, as in the destructive process which we should call natural rejection. Here alone have we the philosophic, moral, and practical foundation of race regeneration, of positive, constructive,

creative eugenics, which shall come into conflict with no ultimate laws of our being, shall not outrage mercy and sympathy, shall not seek to circumvent or extirpate or override love, but shall use love as a great force and instrument of life. In our conviction of the continuity and consequence of life throughout the generations, and therefore of the supreme importance of the conditions of parenthood, we shall see how the *élan vital*, the creative thrust of life-that-will-not-be-denied, surpasses, survives, extends through and beyond the physical limits of the individual life, to the further life of this world to come. In our demands for the granting of what I call "the rights of mothers," which are the ultimate rights of creative life, and for a return of that mother and child worship which has been, until its corruption, the vital element in so many religions, we are safely based upon those principles of the oneness, the persistence, the spiritual character of life, which the wise in all ages were wise because they saw, and which M. Bergson, the latest, but certainly not the last, of their line, has nobly expressed in these words:

"Parfois cependant se matérialise à nos yeux, dans une fugitive apparition, le souffle invisible qui les [vivants] porte. Nous avons cette illumination soudaine devant certaines formes de

l'amour maternel, si frappant, si touchant aussi chez la plupart des animaux, observable jusque dans la sollicitude de la plante pour sa graine. Cet amour, où quelques-uns ont vu le grand mystère de la vie, nous en livrerait peut-être le secret. Il nous montre chaque génération penchée sur celle qui la suivra. Il nous laisse entrevoir que l'être vivant est surtout un lieu de passage, et que l'essentiel de la vie tient dans le mouvement qui la transmet." *

"Vitalism is true," said M. Bergson lately to me, "and will prevail, but it will not be accepted until we can make it useful." Since Galton's death eugenics has been used as an agent of class prejudice, an argument against love, a reason for cruel and wicked surgical operations, for defending the neglect of infancy, and for wild talk about lethal chambers and stud farms. Such prostitutions of eugenics are the very substance of irreligion, and a materialistic "philosophy" is at the heart of them. To Bergson, above all, I look to base in the facts of biology that modern vitalism of which the highest value will be that upon it alone can be founded any eugenics worthy to form part of the Religion of the Future.

* *L'Évolution Créatrice*, 15th ed., p. 139. I have slightly changed Dr. Mitchell's translation of this passage to place opposite the frontispiece.

Part III.—The Progress of Primary Eugenics

CHAPTER XI

POSITIVE EUGENICS—THE ENCOURAGEMENT OF WORTHY PARENTHOOD

"The hereditary transmission of disease, and the occurrence of the same disease in several members of a family, are familiar to all; but it may not be so generally known that mental peculiarities, habits, and even vices, are transmitted from parent to offspring. Drunkenness is one of those vices which extensively prevails in some families, and which often descends from father to son; and with this legacy there is often linked a faulty constitution, an excitable nervous system, and a manifest predisposition to cerebral disease.

"The consideration of the intimate relation between the mental and moral and the physical condition of man, their reciprocal influence upon each other, and the transmission of peculiarities and diseases from parent to offspring are subjects of vast importance. They call for attentive observation and careful study, on the part both of the statesman and the jurist, inasmuch as their influence extends through every rank in life, and affects the moral and social condition of every class of society. The moral and physical ills which disturb the harmony and mar the beauty of this sublunary scene have their only effective antidote in the sublime truths of the Christian religion. It is, however, within the

province of man to minister to his own well-being by a system of government and legislation which shall repress the evil tendencies of his nature, and at the same time foster his languid aspirations after the perfection of his moral and spiritual existence." *—Dr. Caleb Williams.

Nearly sixty years have passed since my grandfather wrote the words at the head of this chapter, and "the transmission of peculiarities and diseases" has received "attentive observation and careful study"—though not, I need hardly say, on the part of statesmen or jurists. But though his foreshadowing of modern eugenics is now so remote, our progress in regard to the transmission of valuable qualities has been most disappointing. Only thirteen years after Dr. Williams wrote thus, Mr. Galton—as he then was—published his "Hereditary Genius," † and established the general truth of heredity in respect of mental characters in man. But it is a long way from such an assertion to knowledge which can be applied to the individual case. That is where the statistical method breaks down, and yet that is where eugenics can alone, in practice, apply.

The complexity of valuable qualities.—The

* "Criminal Responsibility of the Insane." Churchill, 1856.

† This great classic is now, and has long been, out of print, including the second edition of 1892. Again I appeal to Messrs. Macmillan & Co. to reprint it, or to allow someone else to do so. Such a task would be a pious and worthy undertaking for the Eugenics Education Society, for instance.

American Mendelians have made great progress during the last four years, but not in regard to valuable characters. I believe the reason to be that the great contrast between the valuable and the morbid or undesirable characters lies in the complexity of the former. It is possible that the absence or presence of only one genetic factor may in certain cases constitute the difference between the feeble and normal mind, the deaf and hearing ear; but it is very certain that, say, "conscientiousness" cannot be so traced. I believe that most admirable mental qualities are complex, owing their appearance to the harmonious co-existence of more factors than one in the genetic constitution of the individual. As Professor Bateson says, "There is as yet nothing in the descent of the higher mental qualities to suggest that they follow any simple system of transmission. It is likely that both they and the more marked developments of physical powers result rather from the coincidence of numerous factors than from the possession of any one genetic element." Shakespeare, who knew everything, made Antony say of Brutus:

> "His life was gentle; and the elements
> So mix'd in him, that Nature might stand up
> And say to all the world, *This was a man!*"

There may be some exceptions to this generalisation. At the 1913 meeting of the British Association Major Hurst maintained that musical faculty is a Mendelian recessive, like one form of deaf-mutism or the blue eye. But any musician knows how complex is a complete musical endowment, and how proportionately rare. And this complexity gravely qualifies the prospects of positive eugenics. If each unit forming one of these complexes follows the Mendelian law in transmission, we see how seldom our hopes would be realised, for it cannot often chance that all the necessary units come together again in a germ-cell, and then there are all the possibilities that depend upon the particular constitution of the germ-cell with which the first is mated.

Here, of course, is the explanation of the countless disappointments which we suffer when we observe the offspring of distinguished persons and find how ordinary they usually are. The various units that met in the rare person, and combined to give him or her the quality we prize, have now segregated or separated; and in the offspring the elements are so mixed that there is nothing notable or exceptional at all. The contrast between such cases and those of some disease—say, hæmophilia—due to a single genetic factor (limited by sex), where the undesirable

quality reappears with mathematical regularity, is ironic and deeply significant; and the simple explanation is now forthcoming.

The rarity of genius.—We now begin to understand the rarity of genius. If it depended upon the presence or absence of a single genetic factor, or even of only two or three, it would be common. We see, also, that we must be very careful as to what we predict and promise from positive eugenics. Serious harm has been done by the fact that Galton called his masterpiece "Hereditary Genius." The title conveys a totally wrong impression of what the book really contains. It does largely show the inheritance of ability; and the author himself said later that he would change the title, if possible. By just so much as mere ability is commoner than genius may we guess that it depends upon the coming together of fewer genetic factors, and that its appearance in any stock will therefore be more frequent, though in no case can we expect it to appear in every member of any stock.

Two notable "experiments" in positive eugenics were made in the nineteenth century. Perhaps if the illustrious parents could have had, say, one thousand and twenty-four offspring, one of them might have been all we could ask for. But in small human families so much smaller is

our chance of success, even when *genius mates genius of the same kind*—which is the kind of union most desirable in theory. Robert Browning married another poet, and their son, now dead, was commonplace. Richard Wagner married the daughter of Liszt, and their son, Siegfried Wagner, is a remarkable illustration of the foregoing argument. He inherits musical ability of no common order. He is a competent composer and conductor. Many of the elements of musical genius he displays. He has his father's industry and enthusiasm for his work. But his conducting is mildly cheerful, and his music Wagner-and-water in homœopathic dilution. Something tremendous, which was in his father, that supreme genius of the nineteenth—or almost any—century, is lacking. The breeding of genius has failed again.

The breeding of genius impossible.—It follows that here I offer no discussion of the fashion in which positive eugenics proposes to apply the laws of heredity for the production of Newtons and Shakespeares. This is a delusion to which some eugenists are prone, and it constitutes a serious obstacle for the sane advocates of eugenics, who are constantly met with inquiries as to the breeding of genius, and with questions as to this or that case—and their name is legion

—where the child of a genius was a mediocrity; to say nothing of the vast difference between different types of genius, scientific and artistic, or sane and insane, as, for instance, Charles Darwin and Edgar Allan Poe. Naturally, also, the critics of eugenics do not trouble to distinguish between its responsible and irresponsible advocates—or, indeed, prefer to take the latter as representative—and expend their sarcasm upon proposals and expectations which every sensible eugenist is constantly repudiating. In a word, we believe that we can breed out certain types of mental deficiency because they are simple, but we know that we cannot produce genius by any system, not even if we could treat mankind as Mendel treated peas, because genius is complex and proportionately beyond our control. Thus, supposing that any particular kind of genius required the combination of only five factors, it might be shown that only one such genius could be expected, on the average, among hundreds of offspring of parents whose germ-cells were supposed to contain those factors. The relatively tiny numbers of human offspring are thus an obstacle; and in the case we suggest it might well be that the combination of, say, any four of those factors in an individual might yield, instead of a genius, only some particularly flagrant kind of fool.

The condemnation of class eugenics by genetics.—If such arguments, drawn from the modern conceptions of genetics, compel us to abandon even the idea of stocks, on the ground that any kind of stock will contain sharply contrasted individuals of vastly different worth, how much more is class eugenics, the poisonous growth which has sprung up since the death of Galton, condemned by such conceptions! Yet just when modern genetics is giving us a scientific explanation of the familiar fact that the offspring of even the same parents differ widely among themselves, some recent writers are asking us to accept social classes, and to reject others, on eugenic grounds. This is truly the limit of unscientific absurdity. It had a pseudo-scientific warrant so long as we accepted the statistical ideas of human heredity, and thought that mankind could be generalised about by the thousand in that fashion. But in these days, when extensive pedigrees are being compiled which show how brothers differ like black and white—just as Mendel's peas did, and for the same reason—it is too ludicrous that when the necessity of these discriminations, even within a given family, to say nothing of a given stock, is apparent, we should be asked to swallow wholesale generalisations about such infinitely heterogeneous aggregates of individuals as social

classes. Mr. Whetham, a physicist without training in biology or first-hand knowledge of the lives, the virtues, and the vices of the poor, did service in writing upon eugenics from the standpoint of Mendelism; but it is so much the more disappointing that, with pedigrees staring him in the face, he should have found it possible to champion class against class, and to declare that there is a biological warrant for class prejudice, as he has lately done. Those who have worked among the poor, have seen them in birth and death and illness, and who also know what books, what plays, what music, what fashions, the rich affect, may well wonder in which direction Mr. Whetham thinks the prejudice more justifiable. It has warrant in neither.*

The lack of genetic knowledge.—For positive eugenics we require what we have not yet —genetic knowledge as to the transmission and constitution of worthy human characters. In this respect we know no more than we knew five or ten

* If a man wishes to descend to these vulgar and ugly appeals to class prejudice, why should he not comment upon the fact that the Electrophone Company loses thousands of lent opera-glasses yearly, almost wholly in the more expensive seats? Or that *Salomé* is done regularly at Covent Garden, where *Orfeo*, which celebrates the genius of music and love as conquerors of death, has not been heard for many years? "No man is a hypocrite in his pleasures," said Dr. Johnson; and the pleasures which the upper classes choose and prefer, after their education for higher things, show them to be without any claim that impartial science can recognise to organic superiority.

years ago. The splendid American work, all done upon Mendelian lines in the last four years, has dealt wholly with morbid characters. The Eugenics Record Office is now sending out inquiries regarding musical and mathematical ability, and the details required have been so well considered that we may begin to be able to disengage and trace some of the constituents of those precious qualities. Nothing resembling the American work for quality and results has yet been attempted in this country, if we except the work of the late Mr. Nettleship upon ocular and cutaneous peculiarities, and that of Dr. Kerr Love upon deaf-mutism. Similar inquiries regarding valuable characters must be set on foot here. They do not require a rare order of intelligence, but only great faithfulness and patience. Anyone possessed of these qualities can increase the sum of our knowledge, and properly devised forms for filling in can be obtained on request.*

The difficulty of applying future knowledge. —Even had we adequate genetic knowledge,

* From the Eugenics Record Office, Cold Spring Harbour, New York, U.S.A. Doubtless, also, since Sir Francis Darwin's reference to Mendelism in the First Galton Anniversary Lecture, forms prepared on Mendelian principles will soon be obtainable from the Eugenics Education Society, of the foundation of which I gave an account in the first American edition of "Parenthood and Race Culture," and the offices of which are now at Kingsway House, Kingsway, W.C.

our chief difficulties would be still before us. We are dealing with human wills. The most valuable are the least easily coerced or directed. Many of them do not choose to marry—Herbert Spencer, Florence Nightingale, Ellen Key, for instance—and many leave no children if they do. Within the first decade of modern eugenics we have lost Lord Kelvin, Lord Lister, and Sir Francis Galton himself, most significant of all examples, without any heirs to survive them. Our difficulties in these respects are going to become not less but greater. The crude statistical study of heredity taught that such and such were " fit " and should become parents, or " unfit " and should not. The question of particular matings was wholly ignored. Professor Bateson has noted the extraordinary case in which the biometricians went over the stud-book and made many calculations, but split up all the parental pairs, wholly ignoring the question of parental combinations, and thus missed the one salient fact which gave the Mendelian clue—that whenever chestnut mated with chestnut all the offspring were chestnut. That is not a mistake which anyone is likely to make again.

What is true of horses is true of ourselves. It is not enough that a man shall marry. He must marry the right person. Positive eugenics,

directed to the production of special valuable qualities—genius, or near it—would need to dictate beyond all possible limits. Our Mendelian ideas are clear on that point.* And even when we have the genetic knowledge, and even when cases of mating in accordance with it occur, we shall find that the probable proportion of children who display what we desire will be small.

The raising of mediocrity.—On a lower plane than the too-ambitious project of breeding genius, or special qualities of talent, in a useful form, there is yet much work for positive eugenics to do. If only we can raise the average, there will be more likelihood of talent and genius arising therefrom, as Galton pointed out ten years ago. And though I believe that what I have called negative and preventive eugenics will long remain far more important and practicable than positive or Galtonian eugenics, we must not neglect whatever may be possible in this direction. Energy, for instance, as Galton pointed out thirty years ago, is apparently a quality which is often transmitted by heredity, and the Mendelians would do

* Since "Parenthood and Race Culture" was published, many books and booklets on eugenics have appeared on both sides of the Atlantic, and most of them contain outlines of Mendelism. The date has now passed when it should be necessary to go over this ground. Everyone must be acquainted with Mendel's law. The reader who wishes for a trustworthy handbook should consult Professor Punnett's "Mendelism."

well to make a special study of it, for it may prove to have a simpler genetic basis than many valuable qualities. And this raises a definite and momentous issue.

Vital imports and exports.—Ever since the early days of the political controversy which discusses imports and exports, I have been asking the politicians and the public to attend to the question of *vital* imports and exports. In the cases of Spain, France, and Ireland, the reader has already noted what I mean. The case of England and Scotland is just as serious. For though we are as yet far from any anthropological survey of our population, it seems just to say that the quality of energy is one which is to be found in higher degree in emigrants than in the population generally. Recently Dr. Stanley Johnson has published an important study of this subject.* He makes it clear that, during the period of his study, the character of the emigrant has changed. Once he was the superfluous, the unadaptable, the failure. To-day the emigrant is usually a man of initiative and energy. Even if we tried to emigrate the undesirable, the physically defective or diseased, other countries will no longer have them—neither the United

* "A History of Emigration from the United Kingdom to North America, 1763–1912," by Stanley C. Johnson, D.Sc.

States nor our own fellow-subjects, such as the Canadians. And, of course, they are quite right. According to Dr. Stanley Johnson, "As matters now stand, the United Kingdom provides the Colonies with able and healthy stock at the rate of 200,000 a year." His hope that the Colonies will repay us by defending themselves and furnishing contingents for Imperial defence will be set aside by the eugenist as scarcely worth hoping, compared with the need in which such selective emigration must involve us. If neither our own Colonies nor other countries will any longer accept the products of our slums, and if our healthy sons are thus to be drained away from us, an essential duty of national eugenics is to deal with the problem in terms of its causes. We must encourage emigrants to go to our own Colonies rather than elsewhere, and that is being most successfully done, but it is the least part of the problem. We must make our own country more habitable by the energetic—which means much legislation of the kind that most so-called Imperialists will detest. We must practise negative and preventive eugenics, so as to cut down the numbers of those who are only the *illth* of the nation, and of whom we can no longer rid ourselves by emigration. And, on the import side, we shall do well, as Galton argued long ago, to

welcome the right type—and only the right type —of immigrant, remembering how incalculably our stock and nation have benefited by our past hospitality to Huguenot and Jew. Anti-Semitism has destroyed and degraded nations before now, without succeeding in the destruction of the Jew, and we should beware of the cheap and nasty temper, displayed in one or two of our popular jesters, which seeks to revive that ugly prejudice.

The sex-disproportion of emigrants. — One brief paragraph must be spared for return to a point which I have long insisted upon. While we have a great excess of adult women at home, and in our Colonies sometimes eight men to one woman, it is absurd for societies that emigrate only boys to ask for our help in the "formation of an Imperial race." No kind of race can be bred by men alone; and our numerical inferiority in men at home is a cause of many and grave social phenomena, most of which I believe to be dysgenic in result. We should therefore seek to emigrate suitable girls and young women, *rather than boys and young men*, for several years to come, and I wish all success to the societies which are helping in this part of the problem of rightly distributing and using the population of an empire. If that is not statesmanship, what would be?

The economics of parenthood. — When we were studying the principles of nurture, we saw that the provision of houses where children can be homed was the logical conclusion of the long process of care which the nation expends or will expend upon the new generation from its conception until it reaches the marrying age. Closely involved in that question is the whole vast problem of parental economics. Professor Karl Pearson has argued that the fall in the birth-rate in Great Britain has been greatest where the factory laws have most reduced the economic value of children, and though his results have been severely criticised, the main fact that children are longer a financial burden than they used to be is obvious. Sooner or later we shall have to abolish our present penalising of those who make the next generation; but this is one of the many questions upon which it would be wiser to defer any decided statements until we have the report of the National Birth-Rate Commission. Mr. Lloyd George has made an infinitesimal beginning in his income-tax rebate with what will ultimately need to be extended almost beyond belief, and it is probable that we shall have the advantage, ere long, of watching and learning from many and substantial French experiments in this direction, when the National

Commission on Depopulation presents its report. Meanwhile, there are many anomalies to which attention might be directed, such as the arrangement whereby the incomes of two persons, hitherto exempt from income-tax, become liable to it when they marry. This is a type of the kind of legislative detail which will become unthinkable when at last we have taught our legislators to think eugenically, and to care as much for the next generation as for the next election. That, however, is not yet, and will not be until we do.

The best parental age.—All sorts of statements, based upon single instances or upon thousands, continue to be made as to the best parental age, and the relative eugenic value of matings between persons of various ages. The reader would do well to doubt whether anything is really known, as yet, on this subject. By far the most painstaking and extensive study of this subject is Professor Karl Pearson's, the conclusion of which is that the first- and second-born children are specially liable to many kinds of physical and mental defect. But since this study dealt only with the numerical order of the children, it leaves undetermined the most important question which is involved. The result might mean that the youth of the parents was at fault —contrary to the saying of George Meredith,

that "glad are the young of youth." In this case the steady advance in the marriage age of both sexes is eugenic and to be welcomed. But the result might equally mean that not the parental age but the place in the family was of consequence. In this case we must deplore small families, which mean that we only get the children who are most liable to defect. Many students, moreover, have pointed out that there is a statistical fallacy, and that the data are incompetent to yield any conclusion so fatal to primogeniture, or to youthful parenthood, as this would appear to be. There are more first-born than second-born children, and so on. Hence, if we look for epilepsy, we find that more first-born have it. But we should find the same result if we looked for genius or anything else. If Professor Pearson's evidence is defective, much more so is any other that we possess regarding this question of parental age. I suspect that here again statistical treatment is inapplicable, because the individual circumstances determine the issue. For instance, directly we introduce a racial poison, such as alcohol or lead, we know that the earlier children will be the least injured. Further, the varying nurture of earlier and later children has been ignored by the statisticians, yet it undoubtedly does vary, as, for instance, in

respect of maternal ignorance, remedied by experience often fatal to the first-born, and in respect of the overcrowding to which the later children of large families become subject. One form of mental defect, Mongoloid idiocy, is now well known to occur, not at the beginning but at the end of a long and rapidly succeeding series of pregnancies. Indeed, this is as good an instance as any other of the futility of the statistical method, unless it be applied either to simple problems with few variables, or with special knowledge of its subject-matter.

The limits of positive eugenics.—In discussing with me the abstract of my lecture to the Sociological Society in 1910, on "The Methods of Eugenics" (*Sociological Review*, October, 1910), Mr. Galton remarked that my list of methods of positive or Galtonian eugenics was "very short." So, indeed, it was; but at that date we had no knowledge of the exact inheritance of valuable qualities. The American Eugenics Record Office was only founded in that year, and to-day we are still without any such knowledge. Further, the Galtonian study of heredity, though still pursued by the Galton Laboratory, was like mediæval chemistry, as Sir Francis Darwin said in the Galton Lecture, whereas Mendelism depends on analysis, and is like modern chemistry.

Only after analysis can we achieve synthesis; and positive or Galtonian eugenics requires such a synthesis—the right parental combination—a question wholly ignored in the Galtonian or biometric study of heredity. As yet we have not the beginnings of the genetic knowledge necessary.

Therefore it must be recorded that the progress of positive eugenics halts here. We have not knowledge enough, but the future is very hopeful, and there should be much of value to record in another five years. During that period we shall do very well indeed if we successfully deal with those duties in negative and preventive eugenics which the knowledge of to-day imposes imperatively upon us. And if real and feasible eugenics becomes more medical every day, that cannot be helped. It only constitutes the greater need for the sympathy and co-operation, absolutely indispensable, of the medical profession, in research, as in Dr. Kerr Love's case, and in propaganda, where its power is unparalleled.

CHAPTER XII

NEGATIVE EUGENICS—THE DISCOURAGEMENT OF UNWORTHY PARENTHOOD

It is essential to insist, yet again, that by Negative Eugenics I mean the discouragement of unworthy parenthood, and nothing else. It has nothing to do with killing, with the lethal chamber, with the approval of alcoholism, of epidemic disease, of infant mortality, or any kind of active interference with, or passive neglect of, ante-natal life. Eugenics has nothing to do with death, but everything to do with birth. The eugenist has only one concern with the unworthy individual, and that is to prevent him from becoming a parent, if his unworth be of a transmissible kind.

The two kinds of unworth.—A primary need is therefore to distinguish between transmissible and non-transmissible forms of unworth. The case of different forms of paralysis has already been cited, and the reader will see how necessary medical analysis is for negative eugenics. Other instances will readily occur,

and the radical importance of this discrimination will become steadily more and more apparent. A man may be illiterate because he is incapable of learning to read, or because he has never been taught to read. Thus every case of illiteracy, *or of anything else*, physical, mental, or moral, must be analysed before we have any title to say that the principles of negative eugenics apply to it. This will be much slower and much more exacting than the genial ignorance which condemns the "lower classes" *en bloc*, as relatively inferior, without reference to the origin and biological meaning of their asserted inferiority; but it is the only method by which eugenics can justify itself and serve mankind. The reader must pardon my reiteration, but it is necessary. Even as I write there comes to hand an article in the *Hibbert Journal*, by Mr. F. C. S. Schiller, a distinguished philosopher without biological or medical knowledge or training, who prejudices eugenics yet again in the eyes of commonsense and expert knowledge alike, by his condemnation of the "lower classes" and his neglect of the crucial inquiry upon which I here insist as essential for every case.

A criticism of Dr. Davenport.—But if and when we have found that a factor of social unworth in any individual is transmissible, we must

discourage parenthood on his or her part. If the defect, like many which have been so splendidly studied by the American Mendelians under Dr. C. B. Davenport, be a "Mendelian recessive," the offspring of such a person will be personally *normal* if their other parent be wholly normal, for then the dominant factor will come in for him or her. On these grounds Dr. Davenport has lately, more than once, published the eugenic conclusion that defectives of these types should mate with normals. But, even assuming that the genetic data were wholly adequate, and that we knew all mental deficiency and epilepsy and one kind of deaf-mutism to be Mendelian recessives, I believe this advice to be thoroughly unsound, and gladly I find myself in hearty agreement with Dr. David Heron, of the Galton Laboratory, who has already protested against it. For, on the Mendelian theory itself, the offspring of such a mating will be "impure dominants," personally normal, yet carrying the defect in half their germ-cells. The only sound and safe eugenic rule is that persons who display these recessive defects should not become parents at all, and I deeply regret that Dr. Davenport should have given other advice to the public backed by the prestige which he has so justly earned for the Eugenics Record Office.

The distinction between marriage and parenthood. — Yet again let us examine our terms. It is to parenthood on the part of the transmissibly unworthy that we object. Negative eugenics has no right to object to their living *or to their marrying*. This must be insisted upon. Hitherto marriage and parenthood have been regarded as synonymous or equivalent by writers on eugenics, and they have said that such and such persons must not marry, when what they meant was that these persons must not become parents. The prohibition of marriage as such is no business of the eugenist, and I beg the reader to consider this apparently startling statement. In the presence of contagious disease marriage is an offence against the partner to it, and must be forbidden, though on other than eugenic grounds. But apart from these infections, the defects to which negative eugenics refers involve no actual danger to the partner, though they do involve danger to any children of such a marriage. We must cease to regard marriage and parenthood as synonymous. In so regarding it we may inflict cruel and unnecessary suffering upon many individuals, who might marry and profit by the married state, to the injury of no one, without having children. Hosts of people marry and have no

children, and many persons who come under the ban of negative eugenics are capable of the prevision which is necessary, and are as conscientious in this respect as anyone can be.

Observe what must happen if we attempt to forbid marriage when we have no right to forbid anything but parenthood. People thus restricted may enter into extra-marital relations, which none can prevent, and which will assuredly not serve the end we have in view. Under such conditions more children with hereditary defects, to say nothing of bad nurture, may come into the world than if the defective person had been allowed to marry. This would be the result of our prudish dishonesty in saying and demanding one thing when we meant and wanted another. Of course, I am not suggesting that semi-imbeciles, unsuitable as life-partners for anyone, and incapable of self-control, should marry; but I do say that we must distinguish between marriage and parenthood in the case, for instance, of Mendelian deafness, where the unfortunate individual may find and give joy in marriage, but should not become a parent. We may do far more harm than good, in the fashion I have hinted at, if we make no attempt to realise a discriminating justice in such cases.

The problem of the "impure dominant."—

The importance of the distinction upon which I feel compelled to insist here will become apparent when we consider the real meaning of the American demonstration that many serious defects are Mendelian recessives. It is that there are many persons in the community, personally normal, who are nevertheless "impure dominants" in the Mendelian sense, and half of whose germ-cells accordingly carry a defect. According to a recent calculation, made in one of the bulletins of the Eugenics Record Office, about one-third of the population in the United States is thus capable of conveying mental deficiency, the "insane tendency," epilepsy, or some other defect. We may hope that this estimate is far in excess of the facts, but certainly there are many such persons, and their number would be increased if Dr. Davenport's advice as to the mating of defectives with normal persons were followed, for all their offspring would then belong to this category.

No segregation or other treatment of the personally defective will meet this part of the problem, which our new knowledge places before the eugenist. Our simple categories of "fit" and "unfit" no longer apply. Not merely are there many defective persons whose defect is not transmissible, but there are many normal

persons who may yet convey defects. We cannot segregate them; we cannot sterilise them. Are we to allow them to become parents, or are we to say that they must not marry? The former alternative would be dysgenic,* the latter is impossible. We cannot possibly address a large proportion of the community and demand that it shall not marry, on the ground that a proportion of the children, according to the type of mating, would be defective, or would be liable to convey defect to their children. There is only one right course for this case, which writers on eugenics have not yet faced. No form of compulsion or prohibition or legislation is here applicable. We can only appeal to the conscience, to the eugenic sense of such persons. We must ask them, in the light of their family history, to refrain from parenthood, but we have no right to ask them to refrain from marriage. How they should refrain from parenthood is a further question, about which the modern doctor has no doubt, and gives definite advice when he is

* A difference of opinion has occurred between the Eugenics Record Office and the Galton Laboratory as to the first use of the word *cacogenic*. I prefer the term "dysgenic," which I suggested to Mr. Galton now many years ago, on the analogy of "eupepsia" and "dyspepsia." At first he questioned the use of the prefix *dys-*, but he consulted Professor Skeat, who cited the medical terms I had had in mind, and who satisfied Mr. Galton that "dysgenics" was the correct opposite to "eugenics." The adjective dysgenic is extremely useful as an instrument of thought.

pressed to do so, but it is not a matter which requires any pronouncement here, for the report of the National Birth-Rate Commission must necessarily deal with it, in the light of knowledge which has not yet been co-ordinated, and with authority which no single individual can claim. But I definitely ask the attention of eugenists to the point here raised, as to the distinction between marriage and parenthood, and especially do I appeal for their consideration of it in the light of the new facts as to the presence of much latent or recessive unworth among normal members of the community, whom we can now begin to identify in the light of their family history.

The importance of recessive characters.— At the International Eugenics Congress in 1912 Professor Punnett stated that most Mendelian defects in man are not recessive but dominant. This is doubtless true, if we make a catalogue of such defects. Most of the dominants, however, would turn out to be extremely rare or unimportant peculiarities of the eye or the skin. Unfortunately the really important defects, in respect of their nature, and of the number of persons affected, are recessives. Most or all of the nervous conditions belong to this category, and accordingly pose us with the new problem of

the impure dominant, which we have just considered. As for the dominant defects, the case is much simpler. The unaffected members of the stocks which display such defects are free, not only as individuals, but in respect of their germ-cells too. They are therefore free, from the eugenic point of view, to become parents, however grave the defect, and however conspicuously it may be displayed in their brothers or sisters. Here the problem of the personally normal individual who is yet a source of danger to the future does not arise.

"Back to the individual."—The reader will observe that we are in a new era in these matters. "Back to the individual" must be our motto. While the unqualified are assuming the existence of a biological basis for class prejudice, science is finding even the concept of stocks or "stirps" to be inadequate. Long ago, before he invented the word eugenics, Galton used to speak of stirpiculture—the culture of stirps. But whether in respect of positive or negative eugenics, the concept of stirps can no longer satisfy us. It is the composition of each individual that determines his value. He may belong to a stirp that produces many men of rare value or of disastrous worthlessness; but he may, in either case, be without the character

in question. Whether we go among the poor or among the well-to-do we shall find sheep and goats, in the eugenic sense, within the limits of one and the same family, and we must act accordingly.

Our exact knowledge of these things, so far as we have it, we owe almost wholly to the Eugenics Record Office, which was founded the year following the publication of "Parenthood and Race Culture." Splendid work has been done, which must be briefly reviewed here, in order that we may know how far we can go in this decennial year of modern eugenics.*

The genetics of mental deficiency. — The feeble-minded are the most important part of the problem of negative eugenics. In Great Britain a Royal Commission reported on the subject in 1906, and indicated the need. But that Commission had before it no Mendelian inquiries into mental deficiency, none having then been made. It had not before it the

* In the discussion after my lecture in Paris to the Société Française d'Eugénique, in January of this year (see *Eugénique*, January, 1914), I was extremely disappointed to find that the biologists and eugenists present did not accept Mendelism at all. All the more value, therefore, attaches to Sir Francis Darwin's statement in the First Galton Anniversary Lecture, which marks the beginning of the end of the difficult struggle at which I hinted in 1909—of persuading eugenists to abandon the biometry of our immortal founder for the Mendelism which he himself, in conversation with me, and in his autobiography, accepted during his later years.

recent work on parental alcoholism, nor the still more recent results of application of the Wassermann test for syphilis to cases of mental deficiency. The Commission reported, in general, upon the importance of the hereditary factor in mental deficiency, but it declared that usually the actual origin of the defect in a stock was "spontaneous"—a stupid and unscientific word which, in this connection, meant *unknown*, and should have been so written. Nevertheless, the facts sufficed for recommendations which have been since pressed upon the legislature with ever-increasing force.

The American work consisted in the first-hand study of stocks, comprising not less than three generations—an essential in all genetic work, though fatally ignored by the English biometricians—and we owe much to Dr. Goddard for his devotion and care. Subsequent inquiries seemed to lead to the conclusion that mental deficiency or feeble-mindedness is a Mendelian recessive, and accordingly that when two persons both showing this defect have offspring, all without exception display it also. The American pedigrees and evidence powerfully reinforced the Report of our Royal Commission, and I gratefully acknowledge that my advocacy of the Mental Deficiency Bills in the *Pall Mall Gazette*

and upon the platform owed very much to the American work.

Much more, however, remains to be done. Mental deficiency is a term which covers a variety of defects—various in kind as well as in degree. The statement that the offspring of two mentally defective parents are always all defective requires to be qualified with the proviso that the parents both display *the same kind of defect*. Further genetic inquiry will doubtless help the clinicians in their attempt to distinguish the different kinds of mental deficiency, and such inquiry is now proceeding in the United States.

Meanwhile other questions arise, the answers to which promise to give a scientific content to the word "spontaneous" in our Royal Commission's Report. For instance, in mental deficiency or allied conditions, the American students have found a proportion of defectives higher than the Mendelian law would lead us to expect, in cases complicated by parental alcoholism. More important still are the results of the Wassermann reaction, which has only just begun to be applied in these cases. So far the work done is small, but already it points to the conclusion that a large proportion of cases of mental deficiency are really inherited or so-called congenital

syphilis. In other words, besides the Mendelian form of this condition there is another which is really syphilis. Until the Wassermann test has been applied it is impossible to reach sure conclusions, and all the work which has been done hitherto must be looked upon as imperfect. It must be repeated, with the addition of the Wassermann test, and then, it may confidently be predicted, observers will find, in mental deficiency, the same distinction between two kinds of case as Dr. Kerr Love found in his masterly work—a model for future investigators —upon deaf-mutism. In the *Journal of Mental Science*, October, 1913, Drs. Kate Fraser and H. F. Watson report the results of study of mental deficiency and epilepsy with the Wassermann test. Out of 204 cases they proved the existence of syphilis in 123, 60 per cent. This is the highest ratio yet recorded, probably because the test had not previously been applied early enough in life.

A great legislative achievement. — After many promises, the Government brought in a Mental Deficiency Bill, which was lost through the action of certain politicians who pose as champions of liberty—the kind of liberty that the half-witted, homeless girl has upon the pavement of Piccadilly. A second Bill is now, however, the Mental Deficiency Act, 1913, which came

into force on April 1st, 1914. Thus we may record, as the greatest achievement in the progress of modern eugenics, the coming into force in its decennial year of a beneficent measure which will, for the first time, take kindly care of the mentally defective as long as they need it, and in so doing will protect the future. The permanent care for which the Act provides is, under another name, the segregation which the principles of negative eugenics require in this case. Here I am mercifully absolved from the necessity of repeating the arguments in favour of segregation, of which a decade's reiteration has made me weary; so far as Great Britain is concerned the thing is, in a sense, done, though local authorities will yet need much stimulation and judicious abuse. In the United States public opinion and understanding appear to be so far advanced that the American reader need not be appealed to.

The next need is research, and ever more research. This must not be merely genetic, though certainly we must follow the American example in our own special schools and colonies. But the Wassermann test must be generally applied, and salvarsan may be found to possess even more power of beneficence than we yet attribute to it. Much in the way of dietetic

research is still needed, and just as thyroid gland substance relieves the cretinoid form of idiocy, so similar methods may be found useful in other forms. Though they are due to " nature," as cretinism is, they may yet be cured by " nurture," as it can—yet another illustration of the folly of generalisations about these two factors of our being.

Two remaining problems. — The segregation of the feeble-minded will undoubtedly, in the course of a few years, diminish the number of new recruits to the company of the feeble-minded. There are, however, two cogent reasons why segregation will not meet the whole need, and these must be clearly stated, lest some should suppose that the Mental Deficiency Act closes the subject, and should be disappointed and blame eugenics when it fails to do so. Both reasons are implicit in foregoing paragraphs. The first is that much mental deficiency will remain uncontrolled by this Act because it only exists, latent but potential, in half the germ-cells of a certain number of personally normal individuals who are the products of, for instance, such matings between the mentally defective and pure normals as Dr. Davenport so unfortunately countenances. No Act dealing with mental deficiency can meet this problem except

by segregating all the new defectives as they thus appear, and this would be a matter of generations. For this part of the problem negative eugenics requires that people in general shall become acquainted with the elements of Mendelism and of their own ancestry, and shall in some instances refrain from parenthood, though not necessarily from marriage, in the interests of the most numerous, the most helpless and the most important of mankind, who are the unborn.

Secondly, we observe that definite scientific evidence now exists showing that the racial poisons are now *originating* mental deficiency among us. It is not poverty, nor the slums, as such, that have this effect; Socialism and legislation upon socialistic principles would not necessarily prevent it. Definite, special racial poisons, which may operate in any environment, are responsible. So long as we neglect them the problem of mental deficiency will remain with us. But this part of the subject belongs to our next chapter.

A contribution to the problem of inebriety. —On the other hand, the permanent care of the mentally defective will serve as a contribution towards the solution of more problems than are obviously involved in it. In the quotation at the head of the last chapter occurs the first state-

ment in scientific literature of a fact which my grandfather observed nearly sixty years ago, and which has lately been verified by inquiry upon a large scale. In 1906 Dr. Welsh Branthwaite, His Majesty's Inspector of Inebriate Reformatories, found that approximately two-thirds of the inhabitants of the certified inebriate reformatories in England and Wales showed clear evidence of being feeble-minded *prior to the inebriety*, which was thus merely a symptom of a pre-existing and, usually, inherited nervous condition. The biometricians have lately gone over the data compiled by Dr. Branthwaite and others, and have found the same conclusion, which was, of course, apparent on immediate inspection of them. The demonstration of the fact is, however, Dr. Branthwaite's, and was complete and published several years before the biometricians made even their notorious "First Study" of the subject of alcoholism. Their claim that they demonstrated the relation of feeble-mindedness and inebriety involves a gross injustice to Dr. Branthwaite, and should never have been made.

This relation, pointed out by Dr. Caleb Williams in 1856, and proved by Dr. Branthwaite exactly half a century later, is a fact of high importance. It does not cover the whole

problem of alcoholism, nor anything approaching the whole, or even a tenth part of it. But it refers to a part of the problem which nothing but recognition of its nature can solve. In segregating the mentally deficient we are dealing with this part of the problem, both as regards present individuals and as regards the future. The eugenists who suppose that this is all which the existence of alcohol requires of them have, however, nearly everything to learn, as we shall see in the next chapter.

The genetics of epilepsy.—In epilepsy, as in paralysis, we have merely an old medical name for a symptom, and nothing could be more disastrous to eugenics, as it was to medicine, than for us to regard this symptom as a disease, and a single one. But here genuine inquiry into family histories will help us, and we begin to find clinical differentiation made easier by genetics. There are forms of epilepsy, or "epileptiform convulsions," which are wholly acquired, and are due, for instance, to local irritation or wounding of the cortex cerebri. Hence we may speak of traumatic epilepsy, or we may quote the name of a great student and refer to Jacksonian epilepsy. These conditions are purely local accidents to the individual body. In biological language they are somatic,

and they are not inherited, so far as science can discover. It is true that here we may be reminded of Brown-Séquard's experiments on guinea-pigs, which seemed to show that traumatic epilepsy *is* transmitted to offspring. But subsequent investigation has not verified the French observer, whose work is now only quoted as final by those who have not noted the subsequent criticism of it. Therefore we may believe that epilepsy of somatic origin is not transmitted in man, and is therefore no business of negative eugenics; except that it is our business to analyse every case of epilepsy, so as to see whether it is our business or not.

There is another form, or there are other forms, of epilepsy, however, which are of genetic origin, and obey the Mendelian law. Perhaps the best name for such conditions would be simply genetic epilepsy, a term which would make salient the all-important distinction. In the study of this subject we are indebted to the American Eugenics Record Office, and to the stupendous labours of Lundborg in Sweden. Between them, they leave no room for doubt upon the subject. This form of epilepsy—I will use the singular number, for convenience, though further distinctions must yet be drawn by neurologists—is a Mendelian recessive, and seems to be genetically simple in

character. In a volume of this size, which professes only to outline the progress of eugenics, it would be absurd to print a pedigree or two. Such pedigrees must be presented in very large numbers in order to constitute satisfactory evidence, and the reader must be referred elsewhere for them. The essential point is that all former work on the genetics of epilepsy is now superseded. All medical men have taken family histories in large numbers in their student days, and have drawn conclusions accordingly. That was merely playing with the subject. The need is for the study of *at least* three generations, and of collaterals too; the total number and distribution of the unaffected as well as of the affected is essential, and the work can only be done slowly and with much expense and travelling, by the method of the "field-worker," which has been so successful in America, or by years of personal labour, as of Lundborg in Sweden, or of Laitinen on parental alcoholism in Finland. The biometrical assumption that all is well if we have numerous figures cannot be maintained. If the figures deal only with two generations they are practically useless, whatever mathematics be applied to them, and data which tell merely of the distribution of qualities among parents and children are wholly useless except when they

refer to the action of the racial poisons upon individuals known to be healthy in the first place.

There appears to be some evidence that epilepsy and feeble-mindedness—in their genetic forms—are interchangeable, and that either may appear in place of the other. It may be so. The American observers are also satisfied that what was formerly stated by them about feeble-mindedness applies to epilepsy, and that no case can be found where two epileptic parents have had other than epileptic (or feeble-minded ?) children. Needless to say, the right method of inquiry having at last been discovered, it is now being followed everywhere—outside, alas, the Galton Laboratory, and the results of the last four years, which are all we have to go upon yet, must be looked upon as merely preliminary. Yet it is already clear that persons who display genetic epilepsy should not become parents, and this must be said without qualification, in spite of Dr. Davenport's recent advice to Mendelian recessives. Here, as in the previous case, and as in all cases of defect recessive in nature, we have the problem of the impure dominant to deal with, and what was said in the case of mental deficiency applies here.

The "insane diathesis."—When we come to study insanity, our difficulties are immensely

multiplied, since here again we are dealing with a symptom-complex, which may be of very various origin. Unless some attempt at analysis be made, the study of the heredity of insanity is impossible. Dr. Leslie Mackenzie pointed out, years ago, in criticism of biometrical work on this subject, that we are dealing with many things, and that to discuss them as a single unit is impossible. Much insanity, for instance, is none other than syphilis. The time has passed, as Dr. F. W. Mott said at the International Medical Congress in 1913, when we should speak even of "para-syphilis." General paralysis of the insane, or paresis as it is called in the United States, for some reason unknown to me, is not "para-syphilis," but syphilis. It may be called endo-syphilis, perhaps, in order to indicate that the spirochætes have penetrated within the brain, where they have now, indeed, been found. But the statistical discussion of thousands of asylum data, which include an unknown proportion of cases of acquired syphilis, is simply grotesque as a means of teaching us about heredity. The method might be adequate to deal with the subject apart from such cases, but their presence would even then vitiate the result. This is the most striking instance, but certainly not the only one, of the fallacies which befall us.

Lately, it has been shown by Dr. Sambon, probably without any error, that the disease pellagra, formerly thought to be due to the consumption of diseased maize—one of Lombroso's many supposed discoveries—is due to infection by a protozoal organism conveyed by an insect. This infection, like that of syphilis, causes insanity, and such cases must be set aside before we try to study the genetics of the "insane diathesis."

But when a study of definite clinical entities is made by the neurologist we have everything to hope for. One peculiar form of insanity, hitherto undescribed, was thus recorded by an American neurologist at the International Medical Congress in 1913, and was shown to follow the Mendelian method of transmission as a recessive. The Eugenics Record Office has also published bulletins on this subject. It is probable that there is an insane tendency, which is a Mendelian recessive, and which will become actual according to the environment of the individual. The American students incline to suppose that the impure dominants display a tendency to "neurasthenia"—a vague term of uncertain and various meaning—while those who inherit the defect from both sides are potentially insane. In their terminology, a person who inherits a certain factor (or its absence) from

one side only is called "simplex," as regards that character, and a person who inherits it from both sides is called "duplex." It seems probable that there are differences between the two types of individual in respect of the insane tendency. The evidence, however, is still inadequate, for so short a time has elapsed since the study of insanity by the right genetic method was begun. It seems certain, however, that the "impure dominant," perhaps showing some signs of nervous instability, is a problem here also, and what has been said in former instances applies to this case. We may hope, however, that the proportion of impure dominants in the community is not as large as the American authors think it may be, for if so, the prospect of an effective negative eugenics in respect of insanity would involve many generations.

A weighty warning.—Meanwhile it is well to remember that what is inherited in this case is, apparently, only a *tendency*. "There are some people," I have heard Dr. Mott remark, "whom nothing would make mad"—except, of course, syphilis. But these others are always in danger. They should beware of nurtural agents which will make their predisposition actual. Some such can scarcely be avoided by forethought, perhaps, though the inheritors of this tendency

should be aware of it, and should protect themselves as far as possible against, for instance, influenzal infection, and, in the case of women, the effects of too rapidly recurring pregnancies, or prolonged lactation. But to both sexes applies a warning which is really implicit in Dr. Caleb Williams's observation, and which is now insisted upon by Dr. T. B. Hyslop, for long Superintendent of Bethlem Hospital, and a leading authority. Alcohol is a deadly agent to persons of the type here described. With it they are mad, without it they are sane. They should never touch it at all. It is more dangerous, in any given dose, to them than to other people, and they are far more likely to become the victims of excess.

The "law of anticipation." — Dr. F. W. Mott, one of the foremost living authorities, has collected a large number of pedigrees from which he infers what he calls the "law of anticipation." The insanity which appeared in middle age or later in the first generation occurs in adolescence in the second, and earlier in the third, so that the stock tends towards a natural extinction. Such would be a typical case. It is a hopeful "law," but some difficulty arises in accepting it. No obvious explanation is to be found for it. Alcoholism, acting by racial

poisoning, might be responsible. Much would surely depend upon the nature of the individual matings in each generation. Lastly, Professor Karl Pearson, a searching and invaluable critic of other people's figures, has asserted the presence of a statistical fallacy and, so far as I am aware, if there is a reply to him, which I for one cannot see, Dr. Mott has not made it. The evidence at present is at any rate not such that we can afford to relax our efforts in the negative eugenics of insanity, on the ground that nature will shortly exterminate all insane stocks.

A protest.—Fragmentary though our knowledge be, it suffices to warrant a protest against the present carelessness with which we "care" for insanity. The old cruelty is past. Never again will such protests against judicial ignorance and brutality as are contained in Dr. Williams's book be required. But there is another danger. We treat the insane in our asylums, and many thus treated are only insane under certain conditions of vicious nurture from which the asylum protects them. They are thus "cured," and, being free from symptoms, must be and are discharged, according to the existing law. Outside, the old worries, the old drinking, reproduce the symptoms, and meanwhile the patient reproduces himself. In many cases this sequence is repeated,

and the future has terrible problems created for it at the expense of some unfortunate woman. Before we listen to those who say that insanity should be no ground for divorce, since that would be hard on the patient, perhaps we should listen to the plea of the wife and, with the ear of the imagination, to the reproaches of the unborn. The present state of things must not be allowed to continue. Under the modern conditions of humane care and wise diet the proportion of "cures" in our asylums steadily rises, but the greater their number, the better we do our duty to the present in this inadequate way, the worse is the injury to the future. Our present way is inadequate because it is no real kindness to discharge a "cured" patient into the conditions which will almost surely cause the recurrence of his symptoms. The asylum with the highest rate of "cures" may not necessarily be that which is best doing its duty either to the present or the future.

A substantial remedy, in part, for the present state of things, would be the granting of the right of divorce to wives, in cases of long continued or recurrent insanity, especially where the family history justifies the belief that the malady is genetic and therefore transmissible. A still more difficult question arises in the possi-

bility of applying some non-mutilative surgical procedure which should sterilise the patient without injury to any of his internal physiological or psychological processes. This method has been tried in the United States, where it is in part established by law, but the records of its use hitherto, as reported upon by the appointed committee, through Mr. van Wagenen, to the First International Eugenics Congress, are not satisfactory enough to permit of any advocacy of this measure in the present state of our knowledge, though a place for it may well be found in the future.

The case of deaf-mutism.—In Great Britain there are more than twenty thousand deaf persons. They have far too little of our sympathy, being less happy than the blind, though not so obviously dependent upon others. The existence of an hereditary factor has long been asserted in this condition. Exact knowledge was lacking, however, and there were cases where deaf children were born to hearing parents and hearing children to deaf parents. A short time ago there was founded in London the National Bureau for the Promotion of the General Welfare of the Deaf, and the feature of this body is its belief in knowledge. Its founder and President, Mr. Leo Bonn, has endowed it with many thou-

sands of pounds, and has been wisely advised by his committee, and especially by Mr. Macleod Yearsley, F.R.C.S., who is otologist to the London County Council Deaf Schools, and who has given all his great powers to the deaf child. The Bureau asked and enabled Dr. Kerr Love, of Glasgow, the most distinguished student of deafness in this country, to investigate the subject further, and he did so in a fashion which long will serve as a model, and which surpasses, in one absolutely essential respect, any of the work done even by the Eugenics Record Office in America. His lectures delivered before the National Bureau in 1913 are published by it under the title "The Causes and Prevention of Deafness." They are essential for every eugenist. Dr. Kerr Love has demonstrated the existence of three distinct types of so-called congenital deafness. The categories here detected probably apply, in exact parallel, to various other conditions, such as mental deficiency, and it is impossible to insist too strongly upon the importance of their recognition. First, Dr. Kerr Love recognises, as many had done before him, the existence of early deafness, involving a consequent mutism, which is purely somatic, local, acquired, traumatic, not inherited and not transmissible. Its commonest causes are neglected

measles or scarlet fever. Its importance for the eugenist is that, before he says "Deaf mutes should not become parents," he is absolutely required to recognise this type of deafness, which involves no disqualification for parenthood. Otherwise eugenics will be discredited by the fact that such persons will marry, oftenest persons afflicted like themselves, and, unless both happen to be impure dominants in relation to Mendelian deafness, all the children will hear, and eugenic predictions will be confounded. The prohibition of parenthood is a serious matter, a grave privation to many, and we must learn to distinguish before we prescribe. Of this form of deafness there is no more to say, except that the attention of the public and of public bodies is much needed for the recommendations of the Medical Committee of the National Bureau, which demands the appointment of an otologist to every fever hospital, for the better prevention of this common form of deafness. We are still very incompetent to control the spread of measles and scarlet fever, but we can do more than we attempt at present for the prevention of their disastrous sequelæ.

Syphilitic deaf-mutism.—Secondly, by the systematic use of the Wassermann reaction, in which he is now being and must be followed by

all subsequent students of neurological genetics, Dr. Kerr Love has demonstrated the existence of deafness which is none other than syphilis. These cases have arisen where there was no history of deafness in the family, and we have been content to label them with some such idiotic term as "idiopathic." They are syphilis, and follow, in consequence, the course of that disease when untreated. In early adolescence, it may be, if not sooner, just when the youth is beginning to earn his living, ears and eyes begin to go. But we now have a remedy which will cure syphilis quickly and certainly if it be given a fair chance. Hosts of these cases would be saved if we knew that they were syphilis, identified them early and treated them with salvarsan. That is the tremendous significance of Dr. Kerr Love's discovery, upon which we cannot begin to act too soon. He has already given evidence before the Royal Commission on Venereal Diseases, and we may hope that after the publication of its report the number of such cases will soon and rapidly decline. We are here, of course, dealing with a racial poison, and with a subject which belongs to our next chapter, when syphilis must be further discussed.

Mendelian or genetic deafness.—Only when Dr. Kerr Love, as a clinician, practically familiar

with the subject-matter of his inquiry, had distinguished all the cases of acquired disease and of the transmitted infection of syphilis, could he detect what remains—the Mendelian or genetic deafness, as we may call it, which he has demonstrated for the first time. Of course, no such discovery, depending upon the ratios of affected and unaffected, could possibly be made until the other kinds of deafness had been set aside, and that could only be done by a first-hand student of the subject. When it had been done, he found many families where deafness descended from generation to generation as a Mendelian recessive. Its origin in these families is another and a very interesting question, which we shall not help to solve by calling it "spontaneous" or "idiopathic." Judging by the fashion in which Macdougal in the United States has shown the action of chemical substances upon the ovaries of certain plants in producing new types which are transmitted according to the Mendelian law, we may suspect that some form of racial poisoning was the originating factor in these cases also. But that is beside the immediate point, which is that this Mendelian deafness exists and behaves as such. All the principles which we discussed and defined when we were dealing with mental deficiency apply to

this most recently discovered case. In my judgment, with which most eugenists will concur, and from which the assent of Dr. Davenport, on further consideration, can surely not be withheld, the subjects of Mendelian deafness should not become parents at all, though I expressly refrain from saying what we have no right to say, that they should not marry. The "impure dominants" should also refrain from parenthood, even though the partner be a pure normal.

The limits of segregation.—For the greater number of cases where the principles of negative eugenics apply, permanent care or segregation of the individual is the remedy, if only because the individual would require such treatment even were he sterile, or were his defect not hereditary. No problem arises, therefore, except to silence stupid legislators. Nor does the question of possible sterilisation arise, for there is no such need where the individual will be permanently cared for. But the case is entirely different when we consider (*a*) the "impure dominant," and (*b*) the "recessive," whose defect, such as deafness, does not need segregation on individual grounds, and whose segregation on eugenic grounds cannot be seriously contemplated. In some types of case, if sterilisation without mutilation or personal injury be found perfectly feasible,

the choice between segregation and such sterilisation—a far more humane and less severe measure—might conceivably be offered to the individual. But I should be inclined to rely far more upon the spread of eugenic knowledge, upon the creation of a eugenic conscience, and upon the self-control which we might hope such individuals would exercise. Many of them do so now, and are highly to be honoured therefor.

The problem of tuberculosis.—In respect of tuberculosis I adhere, with much new evidence, to the position taken up in "Parenthood and Race Culture" five years ago, and to the arguments there presented, which won the particular interest of Sir Francis Galton when he was reading the proofs. Against the published and repeated assertions of Professor Karl Pearson I assert that nothing whatever is known about the genetics of this disease. In pedigrees of bad stocks, when one used hopefully to attend the meetings of eugenic societies, one used to see tuberculosis frequently, as a sign of degeneracy, without any attempt to compare its incidence with that in the rest of the community, and without any reference to infection. To the doctor the infection has a real meaning. He has spent many hours of his life hunting for tubercle bacilli in expectoration, he knows that without

the bacillus there can be no tuberculosis, and that, thanks to the action of the placenta as a filter, in Dr. Ballantyne's phrase, the actual infection of the unborn babe with the bacillus is the rarest accident in pathology. These diagrams of families, where criminality, tuberculosis, alcoholism, feeble-mindedness and pauperism are appended to various individuals as if they were *in pari materia*, should all be burnt. They make eugenics ridiculous, as such unscientific nonsense would make any subject. This is the result of having the layman, destitute of medical experience or knowledge, though perhaps a good actuary or philosopher, or experimental breeder, rush headlong into complicated medical problems of which their lifelong students know that nothing is known.

Professor Karl Pearson's memoirs, showing that the inheritance of tuberculosis is "not Mendelian," and that the correlation between parent and offspring is 0·5, may here be ignored. Before the publication of the first of them, now many years ago, I did my best to warn him publicly against overlooking the factor of infection, but it was of no avail. The Eugenics Record Office is now making a most elaborate inquiry of a very different character, but I am more than doubtful whether it will serve. The elements

of the matter are not sufficiently known, and until they have been experimentally analysed the accumulation of unanalysed data will be useless. As I pointed out in my paper to the Eugenics Section of the Public Health Congress in Paris in 1913,* we actually have four factors to disengage, nor do we know how many constituents each of them may involve.

The factor of infection.—First, there is the factor of infection—involving the problems of age at infection, type and virulence of the infecting bacilli, dosage of infection, and all the problems of acquired immunity on the one hand, and of anaphylaxis or hypersensitiveness on the other. Thus, while Professor Karl Pearson attributes the decline in tuberculosis to natural selection, weeding out the naturally susceptible, Professor Metchnikoff believes that early infection by the bovine bacilli (probably) produces in most cases an acquired immunity, which becomes more and more general in cities, and that the decline of the disease is due to this factor. There are many places where the disease is steadily *increasing*, a fact which directly disposes of the theory of natural selection. The French physicians, as everyone should know, attribute this increase to the concurrent increase

* *Journal of State Medicine*, July, 1913.

of alcoholism which, as Professor Landouzy says, "fait le lit de la tuberculose." The evidence from this is dependent largely upon all the existing statistics—French, English, German, American—and also upon Metchnikoff's discoveries as to the injurious action of alcohol upon the white blood cells or phagocytes, our defensive garrison, and the work of Professor Bianchi, in Italy, showing the injurious effect of alcohol upon the activity of the cilia or lashes of the cells which line the air passages, and which lash upwards towards the exterior any bacilli or solid particles inhaled.

The factor of blastophthoria.—Second, there is the possibility of blastophthoria or germ-cell-spoiling, by the tuberculous and other toxins which circulate in the blood of the tuberculous parent. It is conceivable that these poisons may affect the germ-plasm and so weaken the resistance of subsequent offspring. In other words the toxins of tubercle may be racial poisons. This is a definite possibility, and must be excluded before we assume that when the children of the tuberculous become tuberculous they have inherited a genetic factor which was present in the tuberculous parent. The most obvious and certain explanation of such cases, which are to be found in any number, is the exceptional

exposure to infection of the children nurtured in a home with infected parents. I have been pressing this simple point upon Professor Pearson for many years without effect, but fortunately the care of such children does not depend upon his assent. In Switzerland, now for several years, the children of tuberculous parents have been systematically removed from the infected home, with admirable results. In Paris, a philanthropic society, named after the late Professor Grancher, does the same thing. In Denmark, thanks to the work of Bang, it has long been proved that herds of tubercle-free cattle could be formed and maintained by the policy of isolation of the infected. The Danes remove the calves of the tuberculous mothers, bring them up away from the infection and find the method perfectly successful. Recently, in England, similar experiments have at last been made. The results were reported at the annual general meeting of the Royal Agricultural Society, held on the 10th of December, 1913. In these experiments, not merely was there tuberculosis in a parent, but that parent was the mother, and she suffered from it during pregnancy. The committee found that the calves were born uninfected, and could be "reared in circumstances that prevent infection with tubercle

bacilli. The calf houses were to a large extent reconstructed, and there was little or no risk of the calves being infected by bacilli remaining from previous tenancy. Milk for feeding was obtained from a neighbouring farm. As soon as the calves were born they were removed from the mothers, and as soon as possible afterwards they were taken to the calf-rearing premises a mile away." The committee conclude that " inasmuch as no evidence of tuberculosis was found in any of these animals after they were slaughtered, these experiments may be held to have demonstrated that by means of isolation it is possible to rear healthy stock from tuberculous parents." The moral is obvious, and in due course bovine tuberculosis will be abolished in this country as it is already being abolished in Denmark.

In our own case, instead of removing the children from the infected parent, we should remove the parent from the children, which is as good for them, and vastly better for the patient. This is the principle of the sanatorium which most highly warrants it, quite apart from the possibility of actual cure, so deplorably overrated by Mr. Lloyd George. For a detailed account of the argument that isolation of infectious cases in institutions is chiefly responsible for the decline of tuberculosis in England the reader

should refer to the masterly volume, "The Prevention of Tuberculosis," by Dr. Newsholme, principal Medical Officer of the Local Government Board. The public must judge between the mathematician who has never diagnosed a case of tuberculosis, or watched one, or looked for a bacillus, and the former Medical Officer of Health, who has spent the greater part of his life in doing these things, and who has with him now the opinion of those who are actually acquainted with the disease everywhere. In passing these pages for press there reaches me the report of a recent inquiry by Dr. Halliday Sutherland, Medical Officer to the St. Marylebone Dispensary for the Prevention of Consumption, bearing upon the long controversy between Professor Pearson and myself, in which he calls heredity what I call infection. Dr. Sutherland has compared many hundreds of cases, and finds that where a parent was consumptive but not infectious, 75 per cent. of the family were healthy; but where one or other parent was infectious, 74 per cent. of the children were infected.

The factor of acquired susceptibility. — In every case of tuberculosis the factor of acquired susceptibility must be reckoned with. Persistent underfeeding, persistent unsuitable feeding, influenza, alcoholism, light-starvation, and so

forth are known and overwhelmingly demonstrated predisposing factors of this disease. When we study pedigrees, and look for evidence of heredity, we require to eliminate, if we can, the action of these factors. Their importance is immense, and probably far transcends those involved in infection, essential though those are. This is not a treatise upon tuberculosis, and to such treatises the reader must be referred; but it is necessary to protest against the ridiculous assumption that there is no such thing as acquired or nurtural susceptibility to tuberculosis. Let any one look at the occupational distribution of the disease, in the Registrar-General's Annual Report, and notice that the incidence of the disease is always highest among bar tenders, publicans, and others who are specially subject to alcoholism. The fact is capable of another explanation, says Professor Karl Pearson, in one of his onslaughts upon Dr. Newsholme, but he does not tell us what that explanation is, nor need we be much concerned to know.

The factor of genetic susceptibility.—Fourthly, when all the foregoing have been accounted for and duly appraised, we may find left a series of data which prove the existence of a fourth factor, genetic susceptibility. Judging by analogy, and by reference to other cases, in

man, animals and plants, such as the inherited immunity or susceptibility of wheat to rust, which is an infection, we may well believe that this genetic susceptibility to tuberculous infection exists. That is very different from saying that it has been demonstrated. I say advisedly that in the whole literature of this subject no record of anything approaching such a demonstration exists—for the simple reason that no one has yet succeeded, or failed, in analysing the influence of the four factors here defined. To the best of my knowledge, the nature of the problem which lies before the future student of the subject has not hitherto been defined. More complex than I have indicated it probably is, but certainly not less so. The eugenist who wishes to base his demands upon science will therefore speak cautiously of tuberculosis; nor will he be found among the contemptible party of those who, without any first-hand knowledge, have done and are doing their best to hamper and embarrass the labours of the hygienists who are now working for the extermination of this terrible infection.

The future of negative eugenics.—So much for negative eugenics. Demand for action has been confined to real genetic entities, of which we have knowledge. A few more might be mentioned, such as hæmophilia, but they are

comparatively rare and unimportant. Nothing has here been said in general terms of the supposed genetic inferiorities associated with crime and pauperism. Either of those conditions may depend upon genetic realities such as mental deficiency, to which the reader is referred; but often they have no such basis. Eugenists who talk of criminality as if it were a physiological entity can have no idea of what they mean by crime, nor what constitutes it, and they are entirely discountenanced by the recent work upon the English convict which has been done by Dr. Goring with the aid of the biometrical method. Similar comments apply to pauperism, about which counterfeit eugenics is voluble and unveracious, and to the so-called lower classes, and the supposedly disastrous contrast between their birth-rate and that of the well-to-do. I have elsewhere noted the curious contradictions into which these commentators are led, as when Mr. and Mrs. Whetham, in "The Family and the Nation," an able volume grossly disfigured by class prejudice, describe the classes which limit their birth-rate as superior and invaluable, and then roundly rate them as selfish and immoral for doing so. This confusion of thought may always be observed in the customary comments on our differential birth-rate.

Negative eugenics will be well advised to confine itself to definable genetic realities and to appropriate propaganda in such cases. Their number will be steadily added to by such methods as Dr. Kerr Love has employed. We may even find selfishness, unconscientiousness, carelessness of the claims of others and indifference to their sufferings, confident assertion as to matters which are not understood, class prejudice, race prejudice, bad taste, love of ease, vanity, bad manners, petty dishonesty, ingratitude, and similar odious things to be genetic characters capable of being exterminated by the methods of negative eugenics—though I do not think we shall. But if we do I am not sure that the withers even of Mayfair will be entirely unwrung.

Meanwhile, those of us who, in palace or cottage, count ourselves superior may remember that, on our own genetic theories, no credit is due to us, but rather that we should remember the words of Sir Thomas Browne, the first student who clearly recognised and defined the inborn basis of the psychical characters of man: "Bless not thyself only that thou wert born in Athens; but among thy multiplied acknowledgments lift up one hand to Heaven that thou wert born of honest parents, that modesty, humility and veracity lay in the same egg and came into the world with thee."

CHAPTER XIII

PREVENTIVE EUGENICS AND THE RACIAL POISONS

By a racial poison I mean a substance, of whatever nature, which injures the offspring through the parent or parents, and is thus liable to *originate* degeneracy in healthy stocks. And by preventive eugenics, in analogy with preventive medicine, I mean all efforts made to stand between parenthood and such racial poisons.

At the present time in Great Britain, now that mental deficiency is being dealt with, preventive eugenics, in my judgment, constitutes the most urgent, useful and feasible part of all primary eugenics. It has been and is a matter of the utmost difficulty to obtain recognition for it in this country, where Galton himself did not consider the question of racial poisoning at all, though he formally admitted its possibility in the preface to the 1892 edition of "Hereditary Genius," and where Professor Karl Pearson has deprecated what he calls "vague talk about the racial poisons," and has attempted to exculpate one of them.

But the truth is prevailing, and the facts, which are indeed much older than modern eugenics, though never so well confirmed as to-day, are triumphing. Hard though it may be for eugenists who have undergone no training in biology or medicine, they must either act on the new knowledge which is showing that the importance of the racial poisons far transcends that of all other departments of eugenics put together, or they must be false to their eugenic creed. Upon this I insisted in my paper read at the National Conference on Race Betterment, held at Battle Creek, Michigan, in January, 1914, and it is already evident that eugenics outside Great Britain will increasingly devote itself to a part of its duty, which was not recognised by Galton in his papers to the Sociological Society, or subsequently, but which the new study of the racial poisons has now made imperative. To those many eugenists in Great Britain who say that this is "not eugenics," I can only reply with Shakespeare that if, e.g. syphilis does not impair the racial qualities of future generations, "*Nothing that is so, is so.*" In all parts of the world the importance of the racial poisons is being recognised; and we find the Archbishop of York saying that venereal disease, under certain conditions, should be a ground for nullity of marriage—by which, of course,

a High Churchman, on the recognised plan, means divorce, without saying so—and the State of Wisconsin requiring the Wassermann test before marriage.

The approaching conquest of syphilis.—The central feature of the International Medical Congress of 1913, and that by which it will be permanently remembered in history, had to do with the deadliest racial poison of all, a form of disease which is due to a minute parasite, like most diseases, but which is more cruel than any other disease in its ghastly action upon the offspring of its victims. Only a few weeks before the Congress there died my great teacher, Sir Jonathan Hutchinson, who was a pupil of Dr. Caleb Williams long ago, learning from him to take note of heredity, and who first taught us, now nearly fifty years ago, the full measure of the *racial* disasters wrought by this disease. In his will this illustrious student, who was often mentioned at the Congress, directed that his epitaph should be, "A man of hope and forward-looking mind." Indeed, the Congress justified him. Its chief feature was the address by Professor Ehrlich, of Frankfort, upon the methods by which he, with the notable help of Professor Hata, of Tokio, has been able to create the wonderful drug, called salvarsan, by which the body kills all parasites of a certain

type, known as the spirilla. Thus, this drug cures not only syphilis, the disease against which it was constructed, but also several other diseases of men and animals, such as relapsing fever and yaws, which are due to spirilla of other kinds.

After this epoch-making address of Professor Ehrlich, the two principal discussions of the Congress were held ; one upon the results obtained by his creation in all parts of the world, and the other upon the means to be taken in order that the living and the unborn—" breathing and to-be," as Meredith calls them in one of his poems—shall be saved by the all but magic of " the mightiest weapon in the whole range of medicine." Both of these discussions were held under the presidency of Sir Malcolm Morris, whose own results with salvarsan have been as remarkable as everyone else's, and to whose splendid courage we owe the demand for the Royal Commission which is now at work. All who care, not only for knowledge but for its application to the service of the minds and the bodies of men and women and children, must pay homage to Sir Malcolm Morris for his indispensable and practically solitary work in bringing the *realisation* of the value of Ehrlich's genius as near to the "business and bosoms" of Englishmen as it is to-day. Thanks, above all, to Professor Ehrlich, whom every doctor in the world

now acknowledges as no unworthy successor even to the chemist Pasteur, the greatest doctor of all time, and thanks to our own devoted and public-spirited dermatologist, the time is at hand when an end shall be made of the disease which doctors can now quickly cure, *and so prevent*, but which has hitherto been the most implacable and hideous enemy of the mental and physical health of its victims and their children. This is not a matter of "mere physical health," as some uninformed idealists declare, but of morals and conduct, for the use of salvarsan means an end of the terrible form of disordered and disastrous *conduct* which is called "general paralysis," which fills our asylums, and against which at present only salvarsan, of all means ever tried, can prevail at all. To use this remedy as it can, must, and will be used, will be to prevent, we believe, any case of this awful malady from occurring again.

The value of knowledge.—The moral is a very old one. In our democratic day we are apt to undervalue knowledge, and to overrate the liberty which is too often only what Goethe called the most dangerous thing in the world, ignorance in motion. Under no form of government can wisdom be dispensed with. The French revolutionaries guillotined Lavoisier, the father of modern chemistry, and so of Pasteur and

of Ehrlich and his salvarsan, with the comment, "The Republic has no need of chemists." The "Republic" knows better now, and those who have seen how humane knowledge can in these days cure the most ghastly of diseases, even when it attacks expectant mothers, so that healthy babies can be born to them, as never before in medical experience, will proclaim, as tne chief moral deducible from the International Medical Congress, the ancient truth that "Wisdom is justified of her children." The would-be eugenist who ignores the biological sciences, and despises them and their methods, is only a danger to us all. We must be scientific or we are lost. The aims of eugenics are ideal, but its methods must depend on practical knowledge. The creation and use of salvarsan are about to do more for the physical, mental and moral health of the race than all other eugenic measures put together. We owe this drug *entirely* to experiments on animals, from which much more of the same kind is about to come, and I count it a high privilege to have been enabled, thanks to the *Pall Mall Gazette*, after a trial of sixteen days in the High Court in April, 1913, to vindicate by the verdict of a jury and the approval of a judge the humane methods and the superb utility of such workers as Pasteur and Lister and

Ehrlich. These lines will give offence to many readers, but the object of this book is not to please, nor to secure the thanks of the living at all. It is written on behalf of the unborn, with whose verdict modern scientific researchers will be content.

The International Medical Congress passed a resolution calling upon all the Governments there represented to provide means for the diagnosis and treatment of venereal disease. Any return to the horrible and useless old methods which Mrs. Josephine Butler and Mr. W. T. Stead and others abolished in Great Britain is out of the question. But further discussion here is needless. We must await the Report of the Royal Commission, and then eugenists of all parties and in all lands must be called upon to unite in giving effect to its recommendations and to those of the International Medical Congress of 1913.

Meanwhile it would be ungrateful of the eugenist to forget the homage which is due from him to two famous dramatists, Ibsen and Brieux, who have bravely dared, amid much obloquy, to deal with this question. In my judgment Mr. William Archer is entirely justified when, in reference to Ibsen's "Ghosts," which deals with the transmission of syphilis from father to son, he says: "I venture to prophesy that it will

long be remembered and honoured as the first great plea in imaginative literature for the coming science of eugenics. It is more than that, much more; but that it certainly is."*

The control of gonorrhœa.—Against the gonococcus we have no salvarsan as yet, but at the session of the Academy of Science in Paris on October 6, 1913, Dr. Laveran, the discoverer of the parasite of malaria, read a communication from Dr. Nicolle, Director of the Pasteur Institute at Tunis, which leads us to hope that an efficient curative vaccine has now been prepared. On this, also, the English Royal Commission will doubtless report. Meanwhile, in England we welcome the order for the notification of all cases of ophthalmia neonatorum—gonorrhœal inflammation of the eyes of the new-born—which Mr. John Burns promised in his address on Public Health to the International Medical Congress, and which came into force on the 1st of April of this year. If we recognise the rights of mothers and try to provide Listerian care for them at childbirth, we shall also serve to protect their children's eyes from this disease. But though this is the chief cause of so-called congenital blindness, that is the least of the evils of gonorrhœa. The racial poison in this case is

* *Westminster Gazette*, June 27, 1913.

commonly murderous, killing the race outright, and no other single cause of sterility can compare with it. Here, again, we must await and then act upon the Report of the Royal Commission.

The case of malaria.—According to Sir Ronald Ross, malaria is a racial poison, and I have elsewhere cited the evidence of the Cambridge historians, which suggests that the introduction of this disease may have been responsible for Athenian decadence—the greatest tragedy in history. Great Britain is responsible for malaria in India, and the hour will come when we must deal with it. Florence Nightingale fought during decades for sanitation in India, and now we know that nothing could serve the Indian people so well as measures against the malarial mosquito. It will remain to be seen how the reduction of this racial poison will affect the natural vigour of the inhabitants of the peninsula, and whether, without malaria, which is probably our best ally there, they will be content to remain under our rule.

Lead and other racial poisons of industry.—Regarding lead, little need be added to what was said five years ago. The evidence is here clinical and experimental, and incriminates plumbism, both paternal and maternal, as in the case of alcoholism, though there we now also have

microscopical evidence, which has not been looked for in the case of lead. For the evidence the reader may be referred to the leading authority on the subject, Sir Thomas Oliver of Newcastle, and to his book "Diseases of Occupation." The peculiar susceptibility of women to plumbism, and the appalling effects upon their offspring, have caused their exclusion from the white-lead industry. But much remains to be done. The public can help by patronising leadless glaze china, which is beautiful and cheap and can be obtained from many makers now. Municipalities should ask for leadless glaze when providing public conveniences, etc. Sir Thomas Oliver has lately made important experiments, detailed in his lectures at the Royal Institute of Public Health in London in 1913. He has shown that an electrical or electrolytic bath will rapidly remove large quantities of lead from the body, and has demonstrated the curative action of such a bath in animals and man. Already it is required that men working with lead should have a weekly bath in order to remove traces of the metal from the skin. Why should not this be an electrical bath, Sir Thomas asks, seeing that such a bath removes the poison from the tissues generally? In this way lead poisoning and racial plumbism could be prevented. Notwithstanding official regulations,

the death-rate from industrial plumbism has somewhat risen in Great Britain during the last few years, and the eugenist, who knows what this means for the unborn, should use such influence as he has towards making the industrial use of lead safe or unnecessary. And the sale of diachylon, yet again I repeat, should be forbidden by law.

It is probable that other metals, such as mercury, and metalloids, such as arsenic and phosphorus, may also act as racial poisons, and the same must be true of any known poison which is proved to pass through the "placental filter," but no more need be said of these here. As regards nicotine, I still regard it as probable that this highly diffusible alkaloid may pass through the placenta, and until the contrary is proved I am of opinion that the expectant mother should not smoke.

Alcohol and the primary fallacy.—In no instance have we the right to say that alcohol has acted as a racial poison until we have excluded pre-existing degeneracy of the stock. This primary requirement is involved in the observation of Dr. Caleb Williams, but unfortunately nearly all the evidence collected since his time, until very recently, has been vitiated by this fallacy, upon which I insisted five years ago, and in the *Eugenics Review** subsequently. Since the publication of

* "Racial Poisons: Alcohol," April, 1910.

Dr. Branthwaite's work, which has stood the test of the biometricians, there has been no excuse for ignoring this serious source of fallacy. This symptomatic alcoholism was nevertheless ignored in the papers read at the International Eugenics Congress by Drs. Magnan and Filassier, and has not been duly taken into account even by such a master as Professor Forel. For the truth it is essential that we should recognise this symptomatic alcoholism, though its recognition does not bear at all upon the question of the action of alcohol upon healthy stocks. A distinguished eugenist, whose personal influence and illustrious name have lately done much for eugenics, has written as if one *or other* of these two possibilities must be the whole truth of this subject. There is no alternative whatever between them; either or both may be true. The degenerate may tend to become alcoholic; alcohol may spoil germ-cells (as has been microscopically demonstrated *in civilised man*) as it may spoil liver-cells. Yet we have been asked to decide whether the one or the other of these propositions is true, and, having so decided, to reject the second. As I have been responsible for the introduction of this question into modern eugenics, and am continually being reminded of the association between alcoholism and mental deficiency, it may be per-

mitted to note that, thanks to my own grandfather and to Dr. Welsh Branthwaite, I fully recognised and insisted upon this association in 1909, and earlier, before the biometricians or any of my critics had looked into the subject at all.

A new Inebriates Act demanded.—Therefore, even if alcohol had not been proved to be a racial poison, originating degeneracy, we have the most powerful of arguments for a reform of the present law, in Great Britain, regarding inebriates, so as to bring it nearer to the level already attained in many of our own colonies and abroad. Our existing law is grossly and cruelly inadequate. I dealt with the matter fully five years ago, following upon the Report of a Departmental Committee appointed to inquire into the subject. The Eugenics Education Society has also made an appeal to the Government on the subject, and the memorandum I wrote for it to present to the Departmental Committee may be found in the Report. Yet, five years later, nothing has been done. The Bill required has been promised over and over again. It reached a second reading in 1913, and was then lost. There has been serious obstruction in the House of Commons, from the same members as did their best to destroy the Criminal Law Amendment Act and the Mental Deficiency Act. But the Bill was

lost less on this account than because of the feeble support that public opinion afforded it. One could scarcely name a measure that would relieve more miserable homes, husbands as well as wives, and children above all. Yet few people are aware of its existence. Temperance societies, whom it is often my privilege to address—for when one has to choose between belonging to the temperance party or the intemperance party, even the course which "places a man socially" seems imperative—are as much to blame as anyone else. Few professed advocates of temperance know anything about this Bill, and one is almost compelled to believe that a measure which does not strike at the publican is not fit to arouse their enthusiasm. Here is a measure upon which all parties should agree. It would substantially tend to remove the most flagrant scandal associated with the trade in alcohol, and therefore should have the support of the publican. At a recent dinner of the Licensed Victuallers in Birmingham, Lord Willoughby de Broke had the characteristic courage to refer to this measure and to demand the vote of the licensed trade in its favour. The Home Secretary has promised to reintroduce the necessary Bill, and to do his best to secure its passage in the present year, and I hope that professing eugenists and eugenic societies

will do a little more for it than hitherto, for indeed they have done little enough since Sir James Crichton Browne, the first President of the Eugenics Education Society, addressed his letter on its behalf to the *Times* on the subject some five years ago. Also I appeal to the temperance party to support a measure which makes directly for Temperance, present and future, by controlling the intemperate, and I would echo Lord Willoughby de Broke's appeal to the licensed trade itself. The passage of a measure effectively amending the present Inebriates Acts would be a splendid achievement for this decennial year of modern eugenics. Dr. Branthwaite's latest report (Cd. 7281) is more than conclusive.

The Eugenics Record Office is about to make inquiry into the "inheritance of inebriate tendencies," and is preparing an excellent plan of investigation, which I have seen, but it is almost a pity that it should spend its time upon what is not now in dispute and can scarcely be further analysed by the *questionnaire* method.

Alcohol as a racial poison.—Of all the inquirers who have studied this subject during many past decades, Professor Karl Pearson alone, studying figures casually chosen by him, has reached the conclusion, since discredited by his own later work, that the children of alcoholic parents are

superior to those of sober parents. The report is still quoted by those who know nothing of the subject but know well what they want to believe. Professor Pearson is aware of this, but declines to withdraw a report which has been a terrible injury to eugenics, and the withdrawal of which has been demanded by Sir Victor Horsley and myself. Briefly, therefore, I must repeat the criticisms which I published in the *British Medical Journal* and elsewhere in 1911. The authors had no information, in a single case, as to whether the parental alcoholism, the influence of which upon the offspring they expressly set themselves to examine, occurred before or after the birth of the offspring. Obviously no further criticism is required. But I may add that the report did not compare comparable parents, as Professor Pearson himself admitted in defending it; it never compared non-drinkers with drinkers at all, for the abstainers were so few that they were calmly added to the "moderate drinkers"; no medical inquiry was made, the evidence resting on the opinion of lay observers; Professor Pearson never visited the place, and has not accepted the invitation to do so which I gave him in the *British Medical Journal*, on behalf of Mr. Andrew Young, the headmaster of the school studied, who scoffs at the result obtained as ludicrously untrue;

and instead of dealing with a normal sample of the working-class population, as Professor Pearson, knowing nothing about it, asserted in defending his report, it dealt with the slums in the North Canongate of Edinburgh. The fact was not known to Professor Pearson, as the name of the school was suppressed in the schedule whence he and his collaborator took their data. I ascertained the facts* by going to Edinburgh—a reasonable measure when one is professing to study Edinburgh children—and finding that this normal sample of the working-class population mainly came from the slums in which I had worked as a medical student and maternity physician, and the ghastly facts of which, recorded by Dr. Leslie Mackenzie after the Boer War, led finally to the medical inspection of school children. Such are the facts of the report which Professor Pearson declines to withdraw, which received the honour of a leading article in the *Times*, and which has been used in advertising alcohol ever since.

For a proper inquiry into the subject by the statistical method, the stocks would require to be known to be healthy, which means that more than two generations would require to be studied; children of the *same* parents would be compared in relation to the incidence of the alcoholism;

* *British Medical Journal*, Feb. 11, 1911.

and paternal and maternal alcoholism would be distinguished, for only paternal alcoholism can yield us evidence, by this kind of inquiry, of racial poisoning or blastophthoria. In the case of the mother, ante-natal malnutrition due to the alcohol might account, as it often does, for the state of the offspring.

The recent evidence of Mjöen.—Dr. Mjöen's admirable paper at the Eugenics Congress* contains instances of the right method of inquiry. As he says, "It is better eugenics to take precautions against brandy than to build asylums for inebriates." He has compared all existing experiments and observations, and concludes that the racial action of alcohol depends upon the strength of the solution drunk. He has persuaded the Norwegian Legislature to place extremely high duties upon the strong forms of alcohol in consequence. He cites a remarkable Norwegian experience, from 1816 to 1835, when the free use of brandy raised the proportion of feeble-minded more than 100 per cent. When weak beer was returned to, things were rectified. In his words, "The enormous increase of idiots came and went with the brandy."†

The evidence of Stockard.—In New York

* "Problems in Eugenics," Vol. II.

† It is pleasant to learn that this fine student will lecture to the Eugenics Education Society on Chemical Racial Poisons this year.

the distinguished embryologist, Professor Stockard, of Cornell University, has proved that alcohol is a racial poison to the guinea-pig.* Stockard worked with guinea-pigs, which were first tested by normal matings and found to produce normal offspring. The influence of the poison upon each sex was tested separately. The alcohol was given by inhalation only, and the author says: "The inhalation method is entirely satisfactory; the guinea-pigs thrive and usually gain in weight during the experiment; they have good appetites, and are in all respects apparently normal. The only indication of the effects of the treatment is shown by the quality of the offspring they produce." The treatment was continued for such periods as fifteen months and more. When killed, the animals were microscopically normal, even as regards the reproductive glands. Says Stockard, "They may be compared to a toper who drinks daily but never becomes really drunk. While the bodies of these animals show no direct effects of the alcohol, the conditions of the offspring to which they give rise exhibit most strikingly the effects of the alcoholic treatment." It will be seen that this agrees with Bertholet's observations in man, showing the early susceptibility of the germ-cells.

* "Archives of Internal Medicine," Vol. X., No. 4 (American Medical Association), pp. 369-398, and in Germany.

Neither the photographs nor other details of this long and invaluable paper can here be quoted. It suffices to say that no one can read the paper without assent to the following sentences, in which the author expresses his results: "The present experiments seem to us to demonstrate in a convincing way that alcohol may readily affect the offspring through either parent, and that this effect is almost fatal to the existence of the offspring when the parents have been treated to even fairly large doses of alcohol. Many of the cases seem to indicate, further, that the tissues of the nervous system in the offspring are particularly sensitive in their responses to the induced conditions."

In the *Journal of Heredity*, February, 1914 (published by the American Genetic Association), further work of Stockard's is described. He concludes that "the effects of the alcoholic treatment were as pronounced upon the offspring of the second generation animals, although they had not been directly treated, as upon the offspring of alcoholised individuals." In other words, "an injury of the germ-cells may express its effect on the offspring and be passed through subsequent generations."

This is a reply to the fantastic neo-Darwinian biology which asserts, against Darwin and Weis-

mann and Galton, that parental nurture does not affect offspring; but it is no reply to those who cannot think of alcohol without party-rancour against Mr. Lloyd George, or anxiety about their investments, or annoyance with fanatics, or resentment at criticism of their own habits, or similar irrelevancies, and who argue that civilised man has had "experience" of alcohol and is thus rendered immune to it by natural selection. Dr. Archdall Reid is the author of this theory, which is regularly quoted by the "better-dead" eugenists, and the advocates of the incredibly unnatural processes which they call natural selection. The sober Italian, long accustomed to the vine, is a favourite illustration. Why do these authors not go to Italy and find the facts? Is it honourable, or compatible with the duty of the eugenist to the unborn, to repeat this nonsense when the death-rate from alcoholism in Italy has risen from 14 per million to 41 per million between 1889 and 1909, as Signor Falcioni informed the International Congress on Alcoholism in Milan in 1913, in his official welcome on behalf of the King of Italy, and when the admissions to asylums for alcoholic insanity in Italy have doubled within ten years? What becomes of the arm-chair eugenist with his political bias, or of the theory of the immunity of the races with

long experience of alcohol, in the light of such facts? The parallel experience of new industrial Russia has lately been forced upon every reader of the newspapers, and the Tsar and Count Witte are now added to the Kaiser, the King of Italy, and President Poincaré, as avowed temperance reformers. I appeal to the Eugenics Education Society and to its President, Major Leonard Darwin, whose illustrious great-grandfather, Dr. Erasmus Darwin, was a pioneer of temperance reform, to consider the scientific evidence here submitted, and to ratify for Great Britain that alliance between Eugenics and Temperance which I have been demanding these many years.

The evidence of Bertholet.—Dr. Bertholet, of Lausanne, has made the final test, in men and women, of races long familiar with alcohol—Italian, South German, French, Swiss. His work extends over six years. He has made hundreds of autopsies in alcoholic and normal persons, of both sexes and all ages, and has macroscopically and microscopically compared the condition of the various tissues. He finds morbid changes in the essential cells of the reproductive glands in alcoholic men in 82 per cent. of cases, a higher proportion than in any other organ or tissue, and, in exact agreement with the results of Stockard, concludes that "les glandes reproductrices sont

plus sensibles à l'intoxication alcoolique que les autres organes." His work was published in 1909, in 1911, and in 1913, in a separate complete monograph.* In this country I cannot even persuade professing eugenists to read his work, though I have offered to lend them my own copy. Such is prejudice. And in July, 1912, Dr. Archdall Reid wrote a long paper, "Recent Researches in Alcoholism," in a quarterly journal devoted to neo-Darwinism and confidently called *Bedrock*, but never so much as mentioned the work of Laitinen, which is well known, and conclusive, in Finland, or of Bertholet in Switzerland.

"Alcohol and degeneracy" at the International Medical Congress.—At the International Medical Congress in 1913, a morning was devoted in the section of Forensic Medicine to "Alcohol and Degeneracy." It was my privilege there to rehearse the recent evidence. Not one reader of a paper nor one speaker questioned that alcohol is a racial poison, as the evidence here quoted has only too abundantly proved. No professing eugenist but myself was present. Professor Karl Pearson did not attend to defend his report, nor did he attend to do so at the Eugenics Congress, and he has declined to give evidence before the

* "L'Influence d'Alcoolisme sur les organes et sur les glandes reproductrices."

National Birth-rate Commission. Sir Thomas Barlow's condemnation of the "medicated wines" was a feature of the discussions associated with the Congress, and I here repeat my warning against them, and all other forms of alcohol, for expectant and nursing mothers, in relation to the health of their children. Dr. Matthew Woods, of Philadelphia, read a paper in the section of Psychiatry, on eight cases of epilepsy due to single acts of parental intoxication, but, as I showed in the discussion, his evidence complied with none of the requirements I have laid down, and cannot be accepted.*

Those who claim to write authoritatively on eugenics, and whose association with the subject is such as to justify their claim, should not dogmatically deny the existence of evidence on this subject until they have taken the trouble to study the literature of alcoholism. The fanatics who still champion alcohol incur a heavy responsibility, and are not doing their duty to the public or the future, when they repeat what they wish to believe on the subject without ever having so much as heard the names of Laitinen, Bertholet or Stockard, to say nothing of earlier work. If Bertholet's

* The student should see also a valuable paper by Dr. Gordon, of Philadelphia: "Parental Alcoholism as a factor in the Mental Deficiency of Children: A Statistical Study of 117 Families" (*Medical Bulletin*, January, 1912).

sections, for instance, are not evidence, there is no scientific evidence for anything: and these apologists would accept it without question, when it was brought to their notice, if it referred to ether, or cocaine, or absinthe, *or any substance but ethyl alcohol.* Why are not more signs of racial degeneracy to be observed, if alcohol is a racial poison? say its defenders. But why are not more signs of such degeneracy to be observed, if syphilis is a racial poison? In either case, the answer is simple, for anyone who wants to find it. And are there not enough such signs? one might reply.

The practical conclusion is that which I have for many years been trying to force upon the temperance party and eugenists alike, as a first duty of both—*Protect parenthood from alcohol.*

Part IV.—Conclusion

THE EASTWARD WINDOW

THERE can be no real conclusion to a volume on eugenics, but only an outlook for the future. That outlook is very hopeful. I have never asserted that the population of Great Britain, for instance, is degenerating as a whole, and I marvel at the eugenists who are bold enough to assert this as something proved. Causes of degeneracy are constantly at work, but when they are not neutralised they commonly end the stocks which they affect, and the race as a whole goes on without them, though this is a horrible and wasteful and preventable business.

The conspicuously dysgenic or degenerative action of war can scarcely be allowed to injure civilised races much longer, and the influence of the true eugenist will always be found on the side of peace and its illustrious champions.

Some there are who love to look backwards, and indeed there is good reason so to do, if it be to realise the darkness and obscurity whence we have emerged. That is the real lesson of organic

evolution and of human history, and in order to learn it afresh the eugenist must often look behind him. But his is the Eastward Window whence he can look towards the future and the dawn, with Shakespeare's lovely words in his heart, "Shine comfort from the East." In the beautiful composition which forms the frontispiece to this volume, the artist has expressed the fundamental eugenic ideas which I have defined explicitly in a previous volume and implicitly here. The child is the growing-point of progress. It is the present incarnation, more than a symbol, of the future. When we look through the Eastward Window we see the child, perhaps "the Christ that is to be." But if the child is to be secure it needs care, primarily of Woman, who is the Mother of the Future, "born to be love visible," in Ruskin's lovely phrase. Whole and loving motherhood, fit object of eugenic homage, is seen in the artist's picture, as the immediate, encircling environment of the Future in its present form, which is the child. If the child were exposed to the actual world without such intervention it would die. But even if the mother be so exposed, she or the child would be injured or destroyed. Yet another circle of protection is needed around her and the child, and that is the Man, the Father of the Future,

who stands in immediate relation to the present, the grim threat of hunger, the struggle for existence, the dark, the steeps and the depths. He, if he be really a man, can maintain this relation, standing between these inexorable things and the woman, who, thus protected, can do all she should for the child. If he does his part in the fields, the wheat he garners will be transmuted by her into the incomparable food, blood or milk, by and from which the next generation is built up. But the Family, the Holy Trinity, Father, Mother and Child, must be thus composed and guarded against Mammon if Woman, Nature's supreme organ of the Future, is to be able to keep her eyes, without fear, fixed upon It as the Eastward Window reveals It. No political devices will alter this natural necessity, which is much older than our race and must endure as long. In this belief the eugenist looks forward, hoping, believing, striving, and ever more careful lest, as his own brief moment of earthly life draws nearer its close, anything should turn away his steadfast gaze from the Eastward Window of his soul.

APPENDIX

FRANCIS GALTON: 1822–1911*

In some three weeks the august master of all eugenists would have entered upon his ninetieth year. The end came very suddenly, and to the very last the founder of the Francis Galton Laboratory of National Eugenics in the University of London was keenly and anxiously following the controversy regarding the Report on parental alcoholism and offspring which was issued under the ægis of his great name last May. He had done his work, and life was worth little to the intrepid traveller of long ago, now reduced to a bath-chair. We can mourn him best by honouring his name and endeavouring to follow the example he set. Though he left no heirs of his body, he has heirs intellectual everywhere, and it is as one of his disciples, now and henceforth, that I here set down, very imperfectly, an account of the impressions made by a veteran pioneer upon a boy in his twenties, whose life-work he determined.

* Reprinted by permission from the *Pall Mall Gazette*, Jan. 19, 1911. (Obiit Jan. 18).

It was a little paper on eugenics, published in the *World's Work* at its foundation, that brought me a kind note and an invitation from Mr. Galton, as he then was. The old man had the grand manner in everything he said or thought or did, and to him may truly be applied the saying that to know him was a liberal education. Exceedingly deaf, he was a most patient and attentive listener to youth and inexperience; indeed, in his entirely fascinating and characteristic autobiography, "Memories of my Life," he somewhere states, as one of the chief disadvantages of old age, the reluctance of the young to speak freely in criticism of it—a wholly original and quite Galtonian complaint. His courtesy, natural and nurtural, as he would have said, was continually perfect, and, together with his venerable age, the grandeur of his head and face (not inadequately suggested in the portrait by the late Mr. C. W. Furse, which is reproduced in the Autobiography), and his beautiful bass voice, gave one instantly the conviction, never to be altered, that one was in the presence of a supremely great man. I have met no one to compare with him for the perfect combination of visible and invisible qualities that make a man great—even to an almost feminine gentleness and a personal modesty, which was the bloom upon all. The

reader must endeavour to imagine how these qualities combined with an extraordinary measure of natural energy, optimism, and receptiveness, so that, deafness, lameness, and asthma notwithstanding, he was always somehow the youngest man in the room. Withal he was cautious and provident, nor was it until the beginners of the Eugenics Education Society had behaved themselves well for a year or so that he consented to become its honorary president.

Sir Francis as author.—The reader who may wish now to possess something of this master's thought should purchase, for a shilling, his "Essays in Eugenics," * published by that society, and his "Inquiries into Human Faculty," republished in the Everyman's Library. His most famous work, "Hereditary Genius," published in 1869, has long been out of print (including the edition of 1892), and once more one may attempt to get it reprinted, as its contents demand. I earnestly hope that Messrs. Macmillan may be able to do this. "Natural In-

* The republication in this form in 1909 of Galton's contributions to the Sociological Society (including the fine fragment on "Eugenics as a Factor in Religion") is not the least of the many and ever multiplying services of the Eugenics Education Society to our cause. Apart from a few paragraphs in "Hereditary Genius" and "Memories of My Life" these essays alone offer Galton's eugenic thought to the public—as distinguished from the countless misrepresentations of it. Cannot the Society, to celebrate next Galton Day, arrange for an American edition, and translations into, at least, French and German?

heritance" is also out of print, and more's the pity, for that notable book contains, far more than almost anybody is aware, evidence of the author's extraordinary insight in perceiving that heredity proceeds by the way of alternatives, as the Mendelians are now showing us. (It is notable, by the way, that Mendel and Galton were both born in the same year, and Mendel's work was published first, though its rediscovery has made it seem a new thing.)

The founder of eugenics.—One need not here attempt to describe Sir Francis Galton's work as explorer and meteorologist, nor to recall at length his work on finger-prints, now of such practical value, or on composite photographs, or his invention of the Galton whistle for the study of tones of high and even inaudible pitch. All his other work is overshadowed by his investigations into the inheritance of ability (of which the grandson of Erasmus Darwin and cousin of Charles Darwin had first-hand evidence), and his foundation of eugenics or race improvement as the necessary sequel to the facts he found. He gave us a word which will endure as long as civilisation, and contains the one principle by which civilisation can endure. The word was first used in "Human Faculty," more than a quarter of a century ago, but only within the last

few years has it received general attention. Sir Francis himself had left the subject to one side, public opinion seeming to be hopeless, but the Sociological Society gave him a platform on its foundation in 1904, and during the last years of his life he had the pleasure of finding more and more attention paid to the subject, until, not more than forty years after he had earned a K.C.B., he was made a Knight Bachelor by a discerning Government. More creditable to the givers was the award of the Copley Medal, its highest distinction, by the Royal Society last month.

One does not yet know to what extent, if any, Sir Francis provided for the continuance of the Eugenics Laboratory and the Eugenics Education Society ; * but doubtless they will continue in any case. It seems clear to many of us that we have not enough knowledge yet for attempting anything direct in the way of Galtonian eugenics ; we must wait for further guidance from Men-

* Let a word be here added, memorial of my dear and venerable friend, Mr. Montague Crackanthorpe, K.C., second President of the Eugenics Education Society. His brave book, "Problems of Population," is discussed in the appendix to "Parenthood and Race-Culture," the proofs of which he read. His last public act was his letter in the *Times*, October 23, 1913, in reply to the attack of Prof. Pearson upon the Eugenics Education Society. He was an octogenarian optimist, and the last sentence he wrote was, "It cannot put back the hands of the clock of progress." He promised me to give evidence before the National Birth-rate Commission, and a few days later he died.

delism. But there is urgent need and complete feasibility for what, with his approval, I have called negative eugenics, especially in regard to the segregation of the feeble-minded, which he himself lately declared to be the most urgent part of the eugenic programme.

Founder as he was of the supreme practical science, the science of making men, with its incomparable ambitions and divine ideals, Francis Galton's name must endure so long as radium and the sun keep the earth warm enough to house mankind. To those who knew and loved and revered him, his memory will always be an inspiration and a benediction, not of the past, but of the living present.

> "He is gathered to the kings of thought,
> Who waged contention with their time's decay,
> And of the past are all that cannot pass away."

INDEX

Ability, 39, 52, 251
Adolescence, 90
Adshead, Prof., 121
Alcohol, 98
—— and nervous instability, 200, 234
—— and syphilis, 112
Alcoholism, 17, 77, 101, 112, 186, 187
—— and tuberculosis, 212
—— in Italy, 240
—— in Russia, 241
American Genetic Association, 4, 137, 239
Ante-natal nurture, 45, 56
Anthropology, 141
Anticipation, law of, 200
Anti-Semitism, 170
Archbishop of York, 221
Archer, William, 226
Aristotle, 153
Athens, 144

Bachelors in France, 66
Baden Powell, Sir Robert, 85, 114
Balfour, A. J., 150
Ballantyne, Dr., 63, 131, 140, 210
Bang, 213
Barlow, Sir Thomas, 71, 243
Barnardo's Homes, 114
Bateson, Prof., 4
—— —— on biometry, 11, 137, 150, 158, 166
" Bedrock," 242
Beehive, 58
Bergson, Henri, 148, 152
Beri-beri, 140
Bertholet, 18, 238, 241
" Better-dead " school, 34, 74, 77, 151, 240
Bianchi, 212
Biffen, 137
Biometry, 10, 50, 137, 166, 175, 195, 218
Birth-rate, 27, 110, 119, 123, 171
Blastophthoria, 212, 237
Boer War, 61, 82
Bonn, 203
Boston, 140
Boy Scouts, 84
Boyd Carpenter, Bishop, 126
Branthwaite, Dr., 192, 231
Brieux, 226
British Association, 41, 89, 159
" British Medical Journal," 235
Broadbent, Benjamin, 79, 131
Browne, Sir Thomas, 219
Browning, Robert, 161
Brown-Séquard, E., 194
Burns, John, 227
Butler, Mrs. Josephine, 226

Cambridge, 9
Carlyle, Thomas, 57
Census of 1911, 127
Champneys, Sir Francis, 131
Civics, 145
Class eugenics, 38, 142, 163, 177
Coat colour in horses, 11, 166
Conduct, 45, 53
Conscientiousness, 11, 32, 158
Constructive eugenics, 30
Consumption (*see* Tuberculosis)
Crackanthorpe, Montague, 252
" Creative Evolution," 148
Cretinism, 190
Crichton-Browne, Sir J., 121, 145, 234
Criminal Law Amendment Act, 232

Dante, 96
Darwin, Charles, 15, 35, 73, 145, 148, 162, 251
—— Erasmus, 241, 251

Darwin, Francis, 165, 174, 185
—— Leonard, 241
Davenport, Dr., 4, 12, 177, 196, 208
De Vries, 11
Deaf-mutism, 6, 158, 165, 180, 203
Definitions, 31
" Descent of Man," 150
Dietetics, 140
" Diseases of Occupation," 229
Divorce in insanity, 202
Driesch, 149, 153
Drysdale, Dr., 131
Duchy of Cornwall, 117
Dysgenics, 182

Ecclesiastical Commissioners, 120
Economics of parenthood, 171
Edinburgh, 82, 236
—— Maternity Hospital, 140
Education, 40
—— and genetics, 46, 61, 83, 84
—— British Association paper on, 41
—— for parenthood, 99
Ehrlich, Prof., 222
Élan vital, 153
Ellis, Havelock, 63
Emigration, 168
Endowment of motherhood, 66
Entelechy, 153
Environment, 23
Epilepsy, 6, 173, 188, 193
" Essays in Eugenics," 250
Eugenic education, 101
—— —— and the doctor, 105
Eugenics and adolescence, 90
—— and Bergsonism, 147
—— and class hatred, 38
—— and conduct, 45
—— and education, 40
—— and expectant motherhood, 24, 29, 54
—— and historic religions, 42
—— and love, 32, 141, 154
—— and marriage, 36
—— and materialism, 35
—— and medicine, 137
—— and obstetrics, 139
—— and psychology, 141
—— and social reform, 15, 24
—— and sociology, 143
—— and temperance, 241
—— and the stud farm, 37
Eugenics and woman, 101
—— chair of, in University of London, 4
—— foundations of, 133
—— natural, 28, 48
—— negative, 19, 150, 176
—— nurtural, 24, 31, 45, 52
—— positive, 19, 80
—— preventive, 18
—— primary, 28, 156
—— secondary, 28
Eugenics Education Society, 4, 145, 165, 232, 234, 241, 251, 259
" Eugenics, Its Definition, Scope, and Aims," 1
Eugenics Record Office, 4, 10, 137, 165, 174, 178, 181, 210, 234
" Eugenics Review," 141, 230
Eugenist, 21, 22
Expectant mother, 24, 29, 54, 55, 62, 78, 132, 230

Fabian inquiry into birth-rate, 124
Falcioni, 240
Fatherhood, duties of, 59, 63, 67, 107
Feeble-minded (*see* Mental Deficiency)
Field-workers, 147, 195
Filassier, 231
First-born, 172
Fluctuations, 11
Forel, 231
France, 144
Franklin, Benjamin, 88
Fraser, Dr. Kate, 188
Free Church Congress, 147
French Commission on Depopulation, 131, 171
French Society of Eugenics, 4, 13, 63, 185
Fry, C. B., 114
Furse, C. W., 249

Galton, 1
—— and class eugenics, 38
—— and positive eugenics, 172
—— and racial poisons, 221
—— and religion, 15
—— and tuberculosis, 209
—— Herbert Spencer lecture of, 8
—— on eugenics as practice, 133
—— on fall of Spain, 144

Galton on hereditary genius, 160, 167
—— on immigration, 170
—— on Mendel, 8
—— original definition of eugenics, 55, 126
—— tribute to, 248
—— Anniversary Lecture, 165, 174, 185
Galtonian eugenics, 19
Geddes, Prof., 145
General paralysis, 139, 224
Genetics and class eugenics, 163
—— as foundation of eugenics, 136
—— Chair of, at Cambridge, 9
Genius, 9, 32, 40, 52, 150, 160, 167, 173
George V., King, 117
German block dwellings, 119
Girl Guides, 86
"Ghosts," 226
Glasgow Housing Authority, 114
Goddard, Dr., 186
Goethe, 224
Gonorrhœa, 128, 227
Goring, Dr., 218
Gordon, Dr., 243
Gowers' paralysis, 139
Grancher, Prof., 213
Griffiths, Principal, 89
Guinness Trust, 110, 117, 119

Hæmophilia, 159, 217
Hall, Dr. Stanley, 91, 96, 126
Hata, Dr., 222
Hedger, Dr. Caroline, 125
"Hereditary Genius," 157, 160, 220, 250
Heredity, 26, 46, 90, 104, 156, 167
Heron, Dr., 151, 178
Hobson, J. A., 130
Home Child, 71, 80
"Homing," 108
Hormones, 93
Horsley, Sir Victor, 235
Houssay, Prof., 18
Huguenots, 144, 170
Humanitarianism, 35
Hurst, Major, 6, 159
Hutchinson, Sir Jonathan, 222
Huxley, T. H., 150
Hyslop, Dr. T. B., 200

Ibsen's "Ghosts," 226
Identical twins, 51
Impure dominants, 101, 178, 180, 199
Inebriety, 37, 156, 191, 232
Infant mortality, 10, 51, 56, 62, 71, 74, 119, 152
—— —— Conference, 81, 125
Infantile paralysis, 138
"Inquiries into Human Faculty," 250
Insanity, 77, 140, 190, 201
International Congress of Eugenics, 138, 183, 231, 237
—— —— of Hygiene, 64
—— —— of Medicine, 72, 197, 198, 222, 227, 242
—— —— on alcoholism, 240
Ireland, 144

Japan, 123
Jews, 54, 57, 95, 111, 112, 113, 144, 170
Johannsen, 11
Johnson, Dr. Samuel, 164
—— Dr. Stanley, 168
Jordan, Dr. Starr, 88, 89, 131, 144
"Journal of Heredity," 239
"—— of Mental Science," 188
"—— of State Medicine," 211

Kaffirs, 95
Kaiser, 241
Kelvin, Lord, 166
Kerr Love, Dr., 6, 165, 188, 204
Key, Ellen, 107, 141, 166
King George V., 117
—— of Italy, 240

Laitinen, 195, 242
Lamarck, 15, 17, 30, 148
Landouzy, Prof., 212
Laveran, Dr., 227
Lavoisier, 224
Lead poisoning, 228
Leslie Mackenzie, Dr., 82, 197, 236
Lister, Lord, 69, 166
Listerian Order, 70
Liszt, 161
Livingstone, David, 88
Lloyd George, D., 171
Lombroso, Prof., 198
London County Council, 118, 121

Longevity, 50
Lundborg, 194
Lycurgus, 56

Macdougal, 207
McDougall, 141, 143, 149
Maeterlinck, Maurice, 58
Magnan, Dr., 231
Malaria, 144, 228
Marchant, Rev. James, 126, 129
Marriage, 36, 63, 67, 145
—— and income-tax, 172
—— and parenthood, 179
Married women's labour, 62
Maternity benefit, 29, 68, 79
Mathematical faculty, 165
Mating, 32, 166
Medicated wines, 243
"Memories of My Life," 3, 249
Mendelism, 4, 10, 101, 137, 139, 158, 174, 187, 206, 251
"Mendelism," by Punnett, 167
Mental Deficiency, 26, 37, 48, 60, 77, 92, 122, 137, 140, 158, 162, 179, 181, 185, 188, 232, 237
Meredith, George, 172, 223
Metchnikoff, E., 211, 212
"Methods of Eugenics," 172
Milk depots, 78
Mjöen, 237
Mongoloid idiocy, 174
Morris, Sir Malcolm, 223
Moses, 62, 69
Mother and child worship, 79, 154
Mott, Dr. F. W., 197, 199, 200
Musical faculty, 159, 165
Mutations, 11

National Association for Prevention of Infant Mortality, 71
—— Birth-Rate Commission, 116, 123, 171
—— Bureau for the General Welfare of the Deaf, 203
—— Conference on Race Betterment, 221
—— Council of Public Morals, 126
Natural eugenics, 28, 48
"Natural Inheritance," 250
Natural selection, 14, 35, 72, 77, 111, 143, 147, 240
Nature and nurture, 19, 23, 28, 44, 45, 50, 53
Negative eugenics, 19, 150, 176
Neo-Darwinism, 15, 16, 239, 242
Nettleship, 6, 165
Neurasthenia, 198
Neurology, 138
Newsholme, Dr., 75, 215
Nicolle, Dr., 227
Nicotine, 230
Nietsche, 35
Nightingale, Florence, 94, 166, 228
Notification of Births Act, 79
Nursing mother, 65, 79
Nurtural eugenics, 24, 31, 45, 52

Obstetrics, 139
Oliver, Sir Thomas, 229
Ophthalmia neonatorum (*see* Gonorrhœa)
"Origin of Species," 153

"Pall Mall Gazette," 186, 225
"Parenthood and Race Culture," 2
Pasteur, Louis, 69, 135, 224
Paris and "homing," 118
Patriotism, 80, 107
Peabody estate, 119
Peacock, Walter, 118
Pearl, Prof., 12
Pearson, Prof. Karl, 4, 74, 147, 171, 172, 201, 209, 220, 234, 242
Pellagra, 198
Pinard, Prof., 63
Poe, Edgar Allan, 162
Poincaré, President, 241
Positive eugenics, 19, 80
Preventive eugenics, 18
Primary eugenics, 28, 156
"Probability the foundation of eugenics," 8
Psychology, 52, 141
"—— of Parenthood," 141
Punnett, Prof., 9, 137, 167, 183

"Questionnaires," 12

Racial instinct, 103
—— poisons, 18, 31, 112, 114, 132, 144, 173, 220
Ramsay, Sir William, 146
Reid, Dr. Archdall, 240
Religion, 15, 42, 68, 79, 105
Religious celibacy, 144
Reversed selection, 144

Rickets, 81, 140
Rome, 144
Rosebery, Lord, 121
Ross, Sir Ronald, 228
Rousseau, J. J., 35
Royal Agricultural Society, 213
—— Commission on Feeble-minded, 185
—— Institute of Public Health, 229
—— Institution, 2, 125
Ruskin, John, 42, 66, 85, 106, 123, 246

Salvarsan, 189, 206
—— creation of, 222
Salvation Army, 114
Sambon, Dr., 198
Schäfer, Prof., 152
Scharlieb, Mrs., 130
Schiller, 177
School clinics, 82
" —— —— at Home and Abroad," 83
Scott, Captain, 88
" Scouting for Boys," 86
Secondary eugenics, 28
Segregation, 189, 208, 252
Sex hygiene, 101
Sexual selection, 141
Shakespeare, 158
Shelley, 94
Skeat, Prof., 182
Slum children, 113
Slums, 73, 111
—— and vital statistics, 114, 145
Social heritage, 53
" —— Psychology," 141
Sociological Society, 1, 108, 133, 147, 174, 221, 250, 252
Spain, 144
Spencer, Herbert, 84, 99, 125, 135, 166
Stanley Hall, Dr., 91, 96, 126
Starling, Prof., 93
Starr Jordan, Dr., 88, 89, 131, 144
Statistics, 146, 166, 173
Stead, W. T., 226
Sterilisation, 203, 208
Still-births, registration of, 72, 132
Stirpiculture, 184
Stockard, 18, 237
" Study of Sociology," 135
Sutherland, Dr. Halliday, 215
Syphilis (*see* Venereal diseases)

Tasmanians, 124
Thompson, Francis, 94
" Times," 117, 130, 146, 234, 236
Toxicology, 138
Tsar of Russia, 241
Tuberculosis, 114, 138
—— analysis of factors of, 209

United States, 2
—— —— and eugenic aberrations, 136
University College, London, 3

Van Wagenen, 203
Venereal diseases, 77, 112, 115, 131, 179, 186, 187, 197, 205, 206, 221, 244
Vitality, 32

Wagner, Richard, 161
Wallace, A. R., 73
War, 87, 245
Wassermann test, 186, 187, 205, 222
Watson, Dr. H. F., 188
Watts, 42
Webb, Sidney, 124
Weismann, A., 16, 239
Weldon, Prof., 3
Whetham, 164, 218
Whitman, Walt, 119
Williams, 157, 192, 222, 230
Willoughby de Broke, Lord, 233
Witte, 241
Woman and adolescence, 95
—— and eugenics, 101, 246
—— suffrage, 50
Women, numerical excess of, 77, 170
Woods, Dr. Matthew, 243
Wordsworth, William, 106
" World's Work," 249

Yearsley, Macleod, 204

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